EFFECTIVENESS OF ACUPRESSURE ON REDUCTION OF NAUSEA AND VOMITING AMONG ANTENATAL MOTHERS IN BENSAM HOSPITAL AT KANYAKUMARI DISTRICT.

DISSERTATION SUBMITTED TO

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI

IN PARTIAL FULFILMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

APRIL 2012

EFFECTIVENESS OF ACUPRESSURE ON REDUCTION OF NAUSEA AND VOMITING AMONG ANTENATAL MOTHERS IN BENSAM HOSPITAL AT KANYAKUMARI DISTRICT.

BY

MISS. B. BERLIN NISHA

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RI.K.RAMACHANDRAN NAIDU COLLEGE OF NURSING

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ABSTRACT

A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari District was conducted by **Ms.B.BerlinNisha** in partial fulfilment of the requirement for the degree of Master of Science in nursing at the Sri.K.Ramachandran Naidu college of nursing, under the Tamil Nadu Dr.M.G.R.Medical University.

The Objectives of the Study were:-

1) To assess the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.
2) To find out the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group.
3) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group.
4) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in control group.
5) To associate the post-test level of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

The following Hypotheses were set for the Study:

All hypotheses were tested at 0.05 level.

H_1 Mean post-test level of nausea and vomiting among antenatal mothers in experimental group was significantly lower than the mean post-test level of nausea and vomiting among antenatal mothers in control group.

H_2 There was a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in experimental group.

H_3 There was a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in control group.

H_4 There was a significant association between post-test level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables.

H_5 There was a significant association between post-test level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables.

The study was based on modified Sister Callista Roy's Adaptation model. The quantitative research approach was used. The study was conducted in Bensam hospital at Kanyakumari District. The design adopted for the study was quasi experimental with pre and post-test control group design to evaluate the effectiveness of acupressure on reduction of nausea and vomiting. Purposive sampling was used to select 60 antenatal mothers in Bensam hospital among that 30 samples for experimental, 30 samples for control group.

The data collection tools developed for generating the necessary data was used by a rating scale to assess the effectiveness of acupressure on reduction of nausea and vomiting. The content validity of the tools was established by five clinical experts. The reliability of rating scale (r=0.8) was established by inter-rater observer method. The instruments were found to be reliable. The acupressure on nausea and vomiting was validated by clinical experts. Pilot study was conducted to find out the feasibility of the study and to plan for data analysis.

Data collection was done and the data obtained were analyses in terms of both descriptive and inferential statistics.

The significant Findings of the Study were:

1. There was a significant difference between mean post-test level of nausea and vomiting among antenatal mothers in experimental and control group ($t=4.142, p<.05$).
2. There was a significant difference between pre and post-test level of nausea and vomiting among antenatal mothers in experimental group ($t=6.896, p<.05$).
3. There was a significant difference between mean pre and post-test level of nausea and vomiting among antenatal mothers in control group ($t=2.460, p<.05$).
4. There was a statistically significant association of post assessment level of nausea and vomiting between experimental group and demographic variables in age, gestational weeks, and gravida except education, work pattern, type of family, area of living among antenatal mothers at $p<0.05$ level.
5. There was a statistically significant association of post assessment level of nausea and vomiting between control group and demographic variables gestational weeks, and gravida except education, work pattern, type of family, area of living among antenatal mothers at $p<0.05$ level.

On the Basis of the Findings of the Study it is Recommended that,

- The similar study can be conducted with larger samples for better generalization.

- A study can be conducted to assess the knowledge and practice of acupressure for nausea and vomiting management among nurse midwives.
- A study can be conducted to assess the effectiveness of other nursing measures such as music, aromatherapy, acupuncture for reduction of nausea and vomiting among antenatal mothers.

Recommendation Based on the Suggestions of the Study Subjects:

1. Antenatal mothers should have in depth knowledge about acupressure.
2. It will be benefited for the mother if she applied acupressure for herself.
3. Mother must knows about physiological changes occurs in pregnancy.

CONCLUSION

The present study assessed the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers. The results of the study concluded that applying acupressure on P_6 points was effective in the reduction of nausea and vomiting among antenatal mothers. Acupressure is inexpensive, easy to apply, not painful and can enhance comfort to the mothers in antenatal period. Hence, could easily be adopted as a regular intervention. Therefore, the investigator felt that more importance should be given to the assessment of nausea and vomiting by using rating scale following the intervention of acupressure. It can be given as non-pharmacological measures to enhance reduction of nausea and vomiting.

CHAPTER-I

INTRODUCTION

"A mother's joy begins when new life is stirring inside... when a tiny heartbeat is heard for the very first time, and a playful kick reminds her that she is never alone."

BACKGROUND OF THE STUDY

Pregnancy is one of the most exciting times in a woman's life. Whether you're dreaming of motherhood, you must learn what you can do, during pregnancy to give a healthy baby to start a life. Begin your motherhood journey here...

Pregnancy can be a very special time in the life of a woman. The nine months of pregnancy, as well as labour and delivery, are filled with many physical and psychological changes, as well as changes in lifestyle. Each change poses a challenge that can be met successfully when the woman shares mother's feelings and experiences with a partner or other supportive person and with physician, midwife, nurse, and childbirth educator. The importance of health care throughout pregnancy is emphasized, because proper health care increases the likelihood of a healthy pregnancy, a healthy baby, and satisfied parents. **(Jacqueline Fawcett et al., 2002).**

Maternal physiological changes in pregnancy are the normal adaptations that a woman undergoes during pregnancy to better accommodate the embryo or foetus. During pregnancy, the woman undergoes many physiological changes, which are entirely normal, including cardiovascular, hematologic, metabolic, renal and respiratory changes that become very important in the event of complications. The body change its physiological and homeostatic mechanisms in pregnancy to ensure the foetus. Levels of progesterone and oestrogens rise continually throughout

pregnancy, suppressing the hypothalamic axis and subsequently the menstrual cycle. The woman and the placenta also produce many hormones.

Vomiting are common condition during early pregnancy it characterized by recurrent or persistent nausea and vomiting it leads to weight loss, anorexia, general weakness and malaise. Upto 70 percent of all women get mild to moderate symptoms during the first three months (first trimester) of pregnancy. This condition affects about three quarters of pregnant women during the first trimester. About half of all pregnant women suffer from both nausea and vomiting one quarter has nausea alone, and one quarter lucks out altogether. The nausea usually starts around six weeks of pregnancy, but it can begin as early as four weeks. It tends to get worse over the next month or so. About half of the women who get nausea during pregnancy feel complete relief by about 14 weeks. (**Suzanne R. 2003).**

The exact cause of nausea and vomiting in pregnancy is not clear. Most evidence points to rapid changes in hormone levels. These fluctuations may cause changes in the muscle contraction and relaxation patterns of stomach and intestines, thus leading to nausea and vomiting. The hormones that seem to have the most to do with this process include the pregnancy hormone Human Chorionic Gonadotropin (HCG), oestrogen and progesterone. Abnormal levels of thyroid hormones have also been reported in women with severe vomiting, although a cause-and-effect relationship remains unclear. Some studies have shown that nausea is worse when your blood sugar level is low. Some researchers have found that women who are more likely to have nausea from birth control pills, migraines, or motion sickness are at higher risk for nausea and vomiting in pregnancy. If there is a family history of nausea and vomiting during pregnancy the child are more likely to have the condition.

Progesterone, either alone or in combination with oestrogen, is believed to be important in nausea and vomiting during pregnancy. Progesterone decreases smooth muscle activity, potentially prolonging gastric emptying and precipitating nausea and vomiting. Progesterone levels peak during the first trimester of pregnancy may have the incidence of nausea and vomiting peaks. Other hormones, including adrenocortical-stimulating hormone, cortisol, luteinizing hormone, follicle-stimulating hormone, Thyroid-Stimulating Hormone (TSH), growth hormone and prolactin are not associated with nausea and vomiting during pregnancy. **(Soules MR et al., 2003).**

There is no significant difference in behavior and mental status between women with or without severe nausea during the first trimester of pregnancy. (**Fitzgerald's, 2004).**

The mean differences in birth weight of infants carried by women with and without vomiting were not significantly different. They reported an increased incidence of fetal loss in women with vomiting (86/1000 births versus 49/1000 births; Relative Risk 1.83). Spontaneous abortions occurred less frequently in women with moderate to severe nausea and vomiting compared with asymptomatic or mild symptoms. There was no difference in the frequency of vomiting between women with planned versus unplanned pregnancies. **(Brandes, 2004).**

Human studies suggests that one gram daily use of ginger may be safe and effective for pregnancy-associated nausea and vomiting when used for short periods (no longer than four days).

Till recently no one knows how there is nausea and vomiting during pregnancy but Vedas quotes about this. At the time of pregnancy the air from the womb is forceful pushed out from the womb crosses throat and attacks brain causing

nausea and vomiting. The air in the uterus at the time of pregnancy is identified as GarbhaVaayu in Vedic literatures. If we can push the air as belching there won't be any nausea and vomiting. **(Ramachandran, 2005).**

If symptoms are not severe by that time health care provider may suggest to try home care treatment like eat small amount of food, avoid spicy and fatty foods, eat simple carbohydrates such as crackers, drink liquid between meals. Still vomiting continues the health care provider may suggest medical hypnosis, herbal remedies like ginger 250mg three times daily; pyridoxine supplements 25 to 50mg every eight hours, acupressure stimulation of the pericardium (P_6) point on the wrist. If vomiting is severe the health care provider may suggest plenty of fluids to replace important electrolytes such as potassium, thiamine (vitamineB_1) injection or IV antiemetics ondansetron, promethazin, metaclopramide, prochlorperazine, trimethobenzamide. Acupressure helps to reduce the tension along with other effects, acupressure helps to promotes good health and make the body less vulnerable to disease. **(En Espanol, 2006).**

Acupressure offers an energy healing capabilities when applying pressure in a point. Acupressure has been known to be successful in a variety of ailments which include nausea, headache, vomiting, muscle tension, pain and morning sickness and other discomforting symptoms. Pericardium (P_6) point is in the wrist prevent nausea and vomiting. Stimulation of the P_6 can occur by several methods such as acupressure or acupuncture. One type of acupressure involves wearing a wristband that presses down on the P_6 point.

NEED FOR THE STUDY

Nausea and vomiting of pregnancy is best thought of as a spectrum disorder with varying degrees of symptoms in different women. Symptoms can range from

mild nausea to unbearable bouts of nausea and vomiting throughout the day. For most women, nausea and vomiting during pregnancy is a self-limited condition during early pregnancy with no long-term negative impact on their health or the health of their foetus. However, nausea and vomiting during pregnancy affects a woman's life, both personally and professionally. For instance, almost 50% of pregnant women who experience nausea and vomiting believe it negatively affects their relationship with their spouse, and 55% feel depressed.

Nausea and vomiting of pregnancy begins between the fourth and seventh week after the last menstrual period in 80% of pregnant women and resolves by the 20^{th} week of gestation in all but 10% of these women. The condition has been shown to be more common in urban women than in rural women. One study identified increased risk in housewives and decreased risk in “white collar” or professional white women who consumed alcohol before conception and in women over 35 years of age with a history of infertility.

The case reports have described women who could not tolerate severe nausea and vomiting symptoms may chose abortion. Moreover, nearly 50% of working pregnant women believed their job efficiency was reduced due to nausea and vomiting, and approximately 25% required time off from work because of these symptoms.

Nausea and vomiting of pregnancy can cause significant distress in many women. The physical and emotional stress of nausea and vomiting during pregnancy can lead to feelings of anxiety and concern about how the foetus may be affected by nausea and vomiting during pregnancy or any possible therapy. Most pregnant women

worry about the possible teratogenicity of drugs and are uncomfortable with any drug therapy during pregnancy. **(Martina L. Badell, et al., 2002).**

Eighty percentages of women have some degree of nausea and vomiting during pregnancy. More than 25,000 women were hospitalised for a primary diagnosis of excessive vomiting in pregnancy. **(William H. Blahd, 2002).**

Nausea and vomiting are common in pregnancy, occurring in 70 to 85% of all gravida women. It is a diagnosis of exclusion and may result in weight loss, nutritional deficiencies, abnormalities in fluids, electrolyte levels, and acid-base balance. The peak incidence is at 8-12 weeks of pregnancy, and symptoms usually resolve by week 20 in all but 10% of patients. Uncomplicated NVP is generally associated with a lower rate of miscarriage, but NVP may affect the health and well-being of both the pregnant woman and the foetus. **(Susan Renee Wilcox, 2003).**

Metabolic and neuromuscular factors have been implicated in the pathogenesis of Nausea and Vomiting of Pregnancy (NVP) an entity distinct from NVP. However, their exact cause is unknown. Consequently, treatment of NVP can be difficult, as neither the optimal targets for treatment nor the full effects of potential treatments on the developing foetus. **(Noel M. Lee et al., 2003).**

The article reviews the social and psychological impact of nausea and vomiting. Pregnancy sickness has significant detrimental effects on the psychological and social well-being of women and their families and arguably is best supported using a psycho-social approach. **(Brian Swallow, 2004).**

A prospective study on epidemiology in prevalence, severity, determinants, and the importance of race or ethnicity of NVP. Women were eligible if they were 18 years of age, and 16 weeks of gestation. Women were asked to fill out a first trimester self-administered questionnaire and were interviewed over the telephone during their second trimester of pregnancy. Participants n=367 were selected for the study. Severity of symptoms was measured by the validated modified- Pregnancy-Unique Quantification of Emesis and nausea (PUQE) index. Results showed that 81.2% were Caucasians, 10.1%Blacks, 4.6% Hispanics, and 4.1% Asians. Multivariate analyses showed that race or ethnicity was significantly associated with a decreased likelihood of reporting nausea and vomiting of pregnancy. **(AnaisLacasse et al., 2006).**

There was a no relationship between serum HCG levels in women with normal or molar pregnancies during the first sixteen weeks of gestation and the frequency or intensity of nausea and vomiting. Although women with molar pregnancies had five to ten times higher levels of serum HCG than women with normal pregnancies, no significant difference in the level of nausea and vomiting. **(Schoeneck, 2006).**

A study related to the pattern of nausea and vomiting in pregnancy. A group of participants n=414were selected for the study. The patterns were ascertained before their sixty day of gestation and followed up to the end of pregnancy. Of these, 89.4 percent reported at least some symptoms. Women with no symptoms of nausea and vomiting of pregnancy experienced a significantly greater proportion of nonviable pregnancy outcomes (fetal death). Increased intake of niacin during the first trimester was associated with decreased infant birth weight. This may be the result of quicker fetal maturation due to increased intake of protein. (**Tierson FD**, **2008).**

Acupressure is also a safe and effective way to relieve nausea and vomiting, so there is no need to suffer from this discomfort which cannot medicate during pregnancy. Up to 80 percent of mother who have complain of nausea and vomiting afterwards, but stimulating an acupoint in wrist can help to reduce the symptoms.

An excellent acupressure point for relieving nausea during pregnancy is called the Inner Gate (also called the Neiguan P_6 acupressure point). This specific point is on wrist and it is easy to treat by applying pressure with finger tip while concentrating on breathing. Measure three finger widths up arm, from the wrist line. Use thumb to locate the point in the hollow between the two bones and in the middle of the tendons. A slight soreness will let to know the right location.

A study at Lund University in Sweden concluded that healthy women could benefit from acupressure to reduce nausea during pregnancy. In this study, women who received pressure to the P_6 or Neiguan acupressure point experienced reduced nausea and vomiting after one acupressure session. The results lasted for three days. The Neiguan acupressure point is located on the inside the wrists about three finger-widths from the wrist crease between the two tendons. Pressing the point with your fingers to the point can help to relieve nausea. **(Vellacourt ID, 2009).**

Researcher during her clinical experience has observed most of the mothers suffer with nausea and vomiting during antenatal period. The nurses midwives has a responsibility to reduce the nausea and vomiting during first trimester, there are also many pharmacological measures available to reduce nausea and vomiting but may bring more side effects. The investigator being nurse midwives interested in non pharmacological method of acupressure to reduce nausea and vomiting during antenatal period.

STATEMENT OF THE PROBLEM

A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari District.

OBJECTIVES

1) To assess the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.
2) To find out the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group.
3) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group.
4) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in control group.
5) To associate the post-test level of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

HYPOTHESES

H_1 Mean post-test level of nausea and vomiting among antenatal mothers in experimental group will be significantly lower than the mean post-test level of nausea and vomiting among antenatal mothers in control group.

H_2 There will be a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in experimental group.

H_3 There will be a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in control group.

H_4 There will be a significant association between post-test level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables.

H_5 There will be a significant association between post-test level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

It refers to systematically and continuously collecting, validating and communicating the data regarding reduction of nausea and vomiting among antenatal mothers by using rating scale.

Effectiveness

It refers to outcome of acupressure for reduction of nausea and vomiting among antenatal mothers.

Acupressure

It refers to the investigator place a fingers in transverse crease locate Pericardium (P_6) point of the inner wrist between the middle of the tendons pressure applied each hands for 15 minutes with the interval of 15 minutes for two times.

Nausea

It is a sensation of unease and discomfort in the upper stomach with an involuntary urge to vomit.

Vomiting

It is the forceful expulsion of the contents of one's stomach through the mouth due to increase Human Chorionic Gonadotropin (HCG) hormones during first trimester of pregnancy.

Antenatal Mothers

It refers to Primi and multi mothers who are in the first trimesters (4-12 weeks) of pregnancy.

ASSUMPTIONS

- Nausea and vomiting may cause discomfort and irritation to the antenatal mothers.
- Most of the antenatal mothers have nausea and vomiting.
- Acupressure may reduce nausea and vomiting during antenatal period.

DELIMITATIONS

- The study was delimited to four weeks.
- The study was delimited to sixty antenatal mothers.

PROJECTED OUTCOME

Administration of acupressure will reduce nausea and vomiting among antenatal mothers.

The study findings will help the nurse to provide acupressure to reduce nausea and vomiting among antenatal mothers.

CONCEPTUAL FRAMEWORK

Conceptual frame works are global ideas about a concept in relations to a specific disciple. Conceptual models are made up of concepts which describe the physical and mental images of a phenomenon and integrate them into a meaningful configuration. A conceptual frame work refers to concepts that structure or efforts a frame work of proposition for conducting research. The framework provides the perspective from which the investigator views the problems.

The present study was aimed to help in adaptation and to reduce nausea and vomiting among mothers by the intervention of acupressure on reduction of nausea and vomiting during pregnancy. The investigator adopted the modified Roy's adaptation of clinical nursing theory as a base for developing conceptual framework.

Sister Callista Roy began work on her model in 1964. She developed an adaptation model of clinical nursing prescriptive theory in 1976. She considered individual as an open system, adjust with stimuli of self and environment. Roy considers the antenatal mothers with nausea and vomiting care to be open, adaptive system.

The cycle has three factors.

- Input
- Throughput
- Output

Input: is identified as stimuli which can come from environment or within a person. Internal Stimuli includes Hormonal changes, Physiological feelings. External Stimuli are aversion to food, unpleasant environment. Contextual Stimuli are allergic reaction, Low conservation of carbohydrate. Residual Stimuli includes Job stress, Conflict, Observed from other antenatal mothers. Here input includes age, gestational weeks,

gravida, educational status, work pattern, type of family, area of living. Pre assessment level of nausea and vomiting was assessed by using rating scale. After collecting data the group was divided into two experimental and control group.

Throughput: make use of a person's processes and efforts. Processes refers to the control mechanism that a uses an adaptive system. Efforts refer to the physical function, self concept, role function, involved in adaptation in the present study. It includes that the experimental group understand the nausea and vomiting symptoms treatment regimen and application of acupressure over P_6 point of the inner wrist between the middle of the tendons pressure applied for each hands for 15 minutes with the interval of 15 minutes for two times, six days for experimental group. No intervention for control group.

Output: is the outcome of the system, when the system is a person, output refers to the person's response, output was categorizing as adaptive response, or ineffective response and these responses provide feedback for the system. In the present study, it refers to the outcome of the system interaction that the reduction of nausea and vomiting leading to adaptive behavior and feedback emphasis to strengthen the input. It is necessary to recommended if the result show ineffective response.

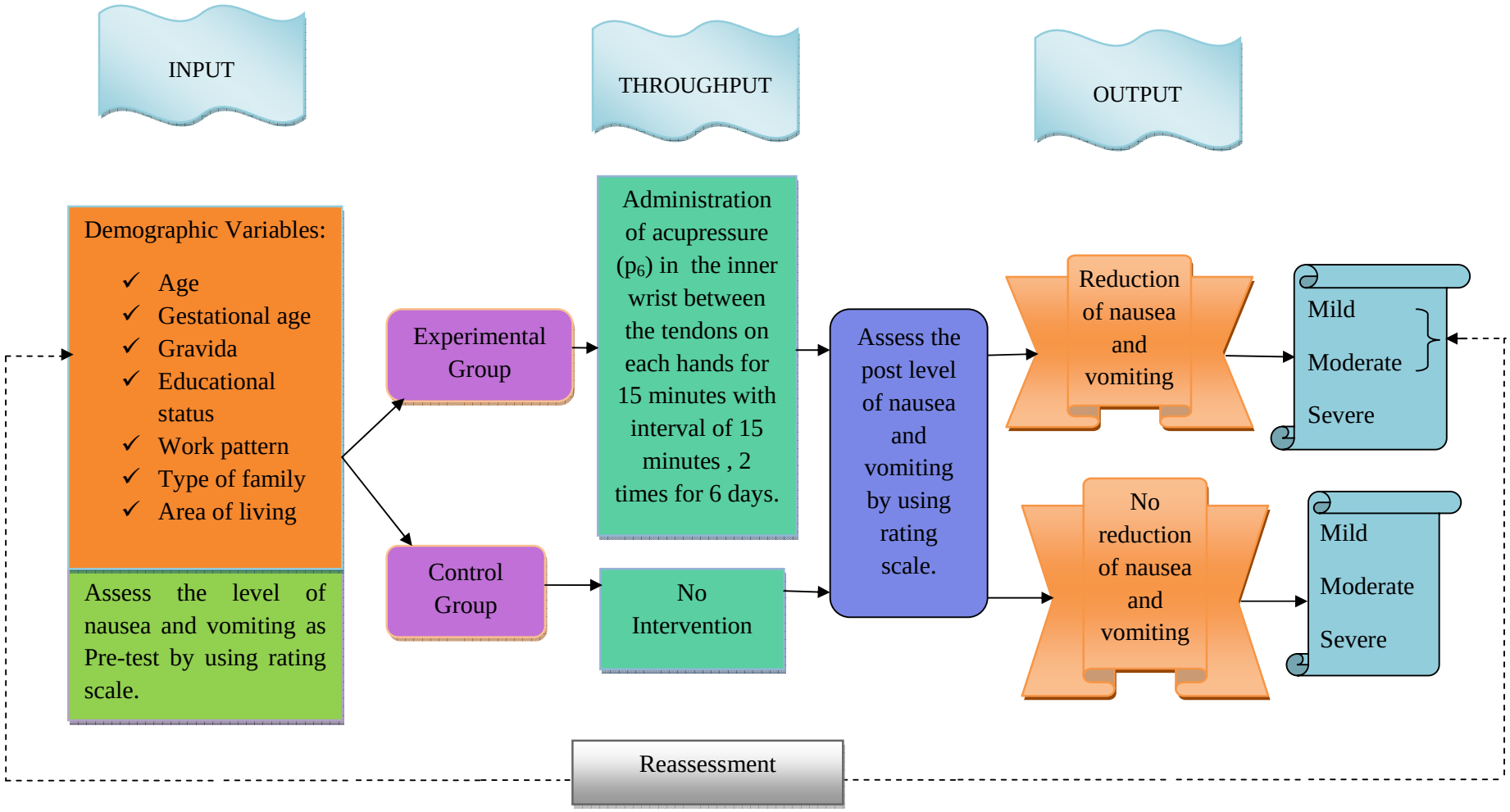

FIGURE: 1 CONCEPTUAL FRAMEWORK ON MODIFIED SISTER CALLISTA ROY'S ADAPTATION THEORY

CHAPTER-II

REVIEW OF LITERATURE

Review of literature is defined as a critical summary of review on a topic of interest, often prepared to put a research problem in contest. **(Polit and Beck, 2006).**

The review of literature in the research report is a summary of current knowledge about a particular practice problem and includes what is known and not known about the problem. The literature is reviewed to summarize knowledge for use in practices or to provide a basis for conducting a study. **(Burns, 1997).**

The review of related literature is an essential aspect of scientific research. It entails the systematic identification, reflection, critical analysis and reporting of existing information in relation to the problem of interest.

The purpose of review of literature is to obtain comprehensive knowledge and in depth information about the effectiveness of acupressure technique on reduction of nausea and vomiting among antenatal mothers.

The review of related literature is organized under the following section.

Section A: Studies related to nausea and vomiting during pregnancy.

Section B: Studies related to acupressure on reduction of nausea and vomiting during pregnancy.

Section C: Studies related to acupressure for other ailments.

SECTION-A: Studies Related to Nausea and Vomiting During Pregnancy

B O'Brien et al., (2002) conducted a study, based on the strategies or situations that stimulate or relieve nausea and vomiting. Participants (n=124) were selected as a sample. Researcher has maintained a diary for seven days, recording symptom relief measures were used, evaluating the effectiveness of these measures. The researcher reported that any type of sensory perception could stimulate symptoms. Sensory stimuli were often exaggerated with perceptions of odors being profoundly affected.

Chandra K et al., (2004) conducted a study about a health-related quality of life instrument development for nausea and vomiting of pregnancy at toronto. One ninety five samples were selected for the study. Data was collected by using telephone interview regarding maternal characteristics. The questionnaire contains 30 items in four domains (physical symptoms or aggravating factors, fatigue, emotions, and limitations) and takes ten minutes to administer. The researcher was applied chi-square to find out relationship between maternal characteristics and its related factors. Results showed that areas of quality of life impairment were frequent and similar by maternal characteristics. The study conclude that questionnaire contains topics of quality of life impairment important to women with NVP and shows promise for use as an outcome measure in clinical trials.

Lacasse A et al., (2004) conducted a prospective study to determine the impact on specific health-related Quality Of Life (QOL) in the first trimester of pregnancy. Sample of the study was 367 antenatal mothers. A questionnaire method was used to find severity and visual analogue scale to measure the intensity of nausea and vomiting. The researcher concluded that 78.5 percent of women reported NVP.

The findings showed that presence and severity of NVP have a negative impact on health-related QOL, which emphasizes the importance of an optimal management of NVP.

Attard CL et al., (2005) conducted a study to assess the burden to determine the QOL, and ability to function due to severe nausea and vomiting of pregnancy in the United States. The symptoms and eight domains of health measured by QOL survey method. Researcher concluded that Nausea and vomiting of pregnancy can severely reduce a woman's QOL and ability to function the time loss from work and other normal activities. The findings showed that the degree of limitation is associated with a severity of symptoms.

Mariola et al., (2006) conducted a prospective study to estimate the nausea and vomiting during pregnancy. One sixty samples were selected for the study. Half of the women reported relief by 14 weeks, but 90 percent had relief by 22 weeks. A small percentage of women experience a severe form of nausea and vomiting. Estimates of incidence of HCG vary from 0.3 to 1.5 percent of all live births. The researcher concluded that presence of HCG have a vomiting episodes during the day, weight loss of over 5 percent (or 3kg) and ketonuria.

Quinla JD et al., (2006) conducted a study to assess the nausea and vomiting in pregnancy. Participants n=60 were selected for the study. Data was collected by using questionnaires to assess the status of vomiting. Researcher concluded that Initial treatment should be an alternative therapy, women with more complicated NVP need hospitalization, orally or intravenously administered corticosteroid therapy, and total parenteral nutrition. The findings showed that nausea and vomiting may have negative implications for maternal and fetal health.

Laitinen K et al., (2007) conducted a study to identify the differences in dietary and clinical impacts of nausea and vomiting. One fifty samples were selected for the study. Data was collected by using questionnaires. The women with NVP were higher intakes of carbohydrates [50.1E% (IQR 46.7-53.6)] than in non-NVP [46.8E% (IQR 43.6-51.9), P = 0.008]. Dietary of vitamin B (12), magnesium, zinc were lower in women with NVP. Researcher concluded that NVP modified dietary intake and has potential clinical impacts as suggested by the altered pregnancy duration. The findings showed that alterations may carry long-term health consequences.

Langley-Evans SC (2007) conducted a study on endocrine basis and contribution to pregnancy outcome for mother with Nausea and vomiting during pregnancy. Participants n=80 were selected for the study. It was validated by using HCG test. Researcher concluded that Concentrations of HCG that are above or below the normal range are associated with poor pregnancy outcomes. The findings showed that production of HCG at optimal levels, protect placental development, and optimize nutrient partitioning between maternal and fetal tissues.

Broussard CN et al., (2008) conducted a study to assess the prognosis for nausea and vomiting in pregnancy. Hundred samples were selected for the study. Data was collected by using questionnaires. Researcher concluded that management should be conservative, including reassurance of the transient nature of the symptoms, in addition to dietary modifications. Pharmacologic therapy is reserved for patients with persistent symptoms. The findings showed that nutritional supplementation becomes life-saving for both the mother and foetus.

Bérard A et al., (2009) conducted a study on Validation of the nausea and vomiting of pregnancy specific health related quality of life questionnaire. Three sixty

seven samples were selected for the study. Cronbach's alpha coefficients were calculated as the measures of internal consistency for (Nausea and Vomiting in Pregnancy and Quality Of Life) NVPQOL. With respect to the criterion validity, linear regression models were built to measure the association of NVPQOL scores. The Cronbach's alpha coefficients were high for the complete NVPQOL questionnaire (alpha = 0.98), and for the four distinct domains. Researcher concluded that NVPQOL is a reliable and valid index to measure NVP-specific QOL in the first trimester of pregnancy. The findings showed that NVPQOL was significantly associated with physical and mental QOL.

Festin (2009) conducted a study on effectiveness of treatment for nausea and vomiting in early pregnancy. One twenty samples were selected for the study. Data was collected by using questionnaires. Researcher concluded that effectiveness and safe interventions were acupressure, acupuncture, antihistamines, corticosteroids, corticotrophins, diazepam, dietary interventions other than ginger, domperidone, ginger, metoclopramide, ondansetron, phenothiazines and pyridoxine. The findings showed that non pharmacological therapies are effective and safe method during pregnancy.

Pepper GV et al., (2009) conducted a study on Rates of dietary characteristics for nausea and vomiting in pregnancy. Participants n= 56 were selected for the study. Data was collected by using questionnaires. Researcher concluded that there was a association between diet and NVP serves an adaptive prophylactic function against potentially harmful foodstuffs. The findings showed that high intake of macronutrients and with low intake of cereals, pulses may cause nausea and vomiting in pregnancy.

SECTION-B: Studies Related to Acupressure on Reduction of Nausea and Vomiting During Pregnancy

Aghadam SKZ et al., (2005) conducted a comparative study to evaluate the effect of acupressure by sea band on nausea and vomiting of pregnancy. Hundred primigravida women were selected for the study. Fifty samples for experimental group and fifty samples for control group. Treatment lasted for four days in both groups. In the acupressure group, Sea bands were placed on the P_6point, in the placebo group Sea bands were placed on points other than the P_6 point. Researcher concluded that severity of nausea and frequency of vomiting decreased significantly after treatment in the acupressure group ($p=0.60$ and $p=0.55$, respectively) compared to the placebo group. The findings showed that acupressure (using Sea-bands) is free from side effects, economical and effective in reducing the severity of nausea and frequency of vomiting in pregnancy.

Shin HS et al., (2006) conducted a study to assess the effect of nei-guan point (P_6) acupressure for nausea and vomiting in pregnancy. Sixty six samples were selected for the study. Thirty three samples for experimental group and Thirty three samples for control group. The women were allocated to an acupressure group and placebo group. The researcher concluded that degree of nausea and vomiting was significantly lower in the acupressure group compared with the placebo and control group. The findings showed that p_6 acupressure is a useful treatment for relieving symptoms experienced by women with nausea and vomiting.

Todd Rosen et al., (2006) conducted a study to assess the effectiveness of low-level nerve stimulation therapy over the wrist at the P_6 point to treat nausea and vomiting in early pregnancy. Participants ($n = 230$) were selected for the study. The

time-averaged change in Rhodes Index total experience of 6.48 for the study group was significantly better than the control value of 4.65 (P =.02). It was concluded that nerve stimulation therapy is effective in reducing nausea and vomiting during first trimester of pregnancy.

Werntoft E et al., (2007) conducted a study to assess the effect of acupressure at the Neiguan point (P_6) with nausea and vomiting during pregnancy. Sixty samples were selected for the study. Thirty samples for experimental group and thirty samples for control group. The experimental group received acupressure and control group received no intervention. The intervention lasted for six days in experimental group. The severity of nausea and vomiting decreased significantly after treatment in acupressure group compared to control group. Researcher concluded that reduction of NVP significantly at P_6 as compared to acupressure at a placebo point.

Norheim AJ et al., (2008) conducted a study to assess the effectiveness of Acupressure treatment for nausea and vomiting in pregnancy. The study subject was 97 women. Fourty eight samples for experimental group and Fourty nine samples for control group. The experimental group received acupressure and control group received no treatment. The treatment was given for six days. A significance level of NVP has reduced by 2.74 hours in the intervention group compared to 0.85 hours in the placebo group ($p = 0.018$). It was concluded that Acupressure wristband might be an alternative therapy for nausea and vomiting in early pregnancy, especially before pharmaceutical treatment is considered.

Slotnick RN (2009) conducted a study to assess the Safe, successful nausea suppression in early pregnancy with P_6acustimulation. Participants n=41 were selected for the study. Twenty one samples for experimental group and twenty

samples for control group. The experimental group received acupressure and control group received no intervention. The intervention lasted for four to five days. It was rated using a one to five scale. Researcher concluded that acupressure has reduced NVP significantly lower than the control group. The findings showed that treatments for nausea in early pregnancy are efficacious, acustimulation of P_6 in pregnancy may prove to be a significant therapeutic alternative.

OzelamCanGurka Oet al., (2010) conducted a study on the effectiveness of acupressure on reduction nausea and vomiting among antenatal mothers. The treatment group comprised 49 women; 25 in the control arm and 24 women were assigned to the placebo arm. The study occurred over a nine-day period. Data was collected by using questionnaires. During this time, the treatment group applied acupressure bands to (P_6) acupressure point on day's four to six of the study with the acupressure bands to a sham acupressure point, on the upper side of their wrists. Researcher concluded as acupressure would appear to be effective in reducing the symptoms of nausea and vomiting during pregnancy.

Leclaire S.et al., (2009) conducted a study to assess the effect of acupressure on nausea and vomiting. Hundred samples were selected for the study. Fifty in the experimental group, fifty in the control group. Data was collected by using Self report daily diaries. Treatment group 1 applied acupressure for both wrists for 2-4 days Placebo group 2 applied the Sea-Bands without acupressure buttons. Data analysis was done by using Mann-Whitney U procedures. Researcher concluded that treatment group also had significantly less frequency and severity of nausea and vomiting of pregnancy while applying acupressure. The findings showed that acupressure is a noninvasive, inexpensive, safe, and effective treatment for NVP.

M. Tadayon. et al., (2009) conducted a study to assess the effect of acupressure and sea band on severity of nausea and vomiting in pregnancy. Hundred samples were selected for the study. They were divided equally to two group's acupressure using Sea Band as case group and placebo Sea Band as control group. In acupressure group, buttoned Sea Band and in control group, placebo sea band were placed on Neiguan point of hand. Data was collected by using Checklist. Intervention has lasted for 4 days. Data analysis was done by SPSS software using Chi square, t-test and Wilcoxon test. Results showed that there is a significant difference in nausea severity and frequency of vomiting in case group before and after treatment ($P<0.001$). The findings showed that acupressure is effective, cheap, comfortable, available and without side effect device which is suggested for reduction of nausea and vomiting in pregnancy.

Katz M.et al.,(2009) conducted a study to assess the effectiveness for nausea and vomiting of pregnancy. Participants n=150 were selected for the study one treatment group using an acupressure point (PC-6) and one sham control group using a placebo point. Intervention has lasted for six days. Data was collected by using assessment scale. Data was analyzed by using Analysis of variances. Researcher concluded that both groups improved significantly over time, but that nausea improved significantly more in the treatment group than in the sham control group ($F1,58 = 10.4$, $P = .0021$). The finding showed that acupressure at the PC-6 anatomical site is effective in reducing symptoms of nausea and frequency of vomiting in pregnant women.

Hemalatha (2010) conducted a study to evaluate the effectiveness of acupressure PC-6 on reduction of nausea and vomiting among antenatal mothers. Sample size was 60 antenatal mothers. The researcher was used Rhodes index of

nausea vomiting questionnaire. Acupressure was given four times during day time for 6 days for experimental group and no intervention has given for control group. The investigator will analysis the data obtained by using paired 't' test and chi-square test were used. Researcher concluded that acupressure at the PC-6 anatomical site is effective in reducing symptoms of nausea and frequency of vomiting in antenatal mothers.

SECTION –C: Studies Related To Acupressure For Other Ailments.

Lillian Berge.et al., (2004) conducted a study to assess the effectiveness of acupressure treatment of morning sickness in pregnancy. Participants n=97 women with mean gestational length completed apply acupressure for morning sickness in early pregnancy, especially before weeks. Symptoms were recorded according to intensity, duration and nature of complaints. Seventy one percentage of women in the intervention group was reported that less intensive morning sickness and reduced duration of symptoms. The same tendency was seen in the placebo group, with 59% reporting less intensity and 63% shorter duration of symptoms.

Soltani AE et al., (2005) conducted a study to assess the effectiveness of acupressure using ondansetron versus metoclopramide on reduction of postoperative nausea and vomiting after strabismus surgery. Participants n=200 were selected for the study. Data was collected by using Combined Numerical and Categorical Pain Scale. Acupressure wrist bands were applied 30 minutes before anaesthesia induction and removed six hours after surgery. (Post-operative nausea and vomiting) PONV was evaluated within 0-2 hours and 2-24 hours after surgery by a blinded observer. Neither the incidence nor the severity of PONV was significantly different among acupressure, metoclopramide and ondansetron groups. The researchers concluded that

acupressure at P_6 on the wrist causes a significant reduction in the incidence and severity of PONV 24 hours after strabismus surgery, which is similar to the reduction seen with metoclopramide and ondansetron.

Frey UH et al., (2006) conducted a study to assess the P_6acustimulation effectively decreases PONV in high-risk patients. Two hundred women undergoing vaginal hysterectomy were given 24 hours of acustimulation (subdivided into groups of pre-induction and post-induction) or sham stimulation, (similarly subdivided). Nausea and vomiting was recorded for 24 hours after operation in the whole group and stratified by risk. Researcher concluded that PONV and need for rescue therapy was significantly lower in the acustimulation than in the sham group (PONV, 33% vs. 63%, P<0.001; rescue therapy, 39% vs. 61%, P=0.001). The risk ratio for acustimulation and PONV was 0.29 [95% confidence interval (CI) 0.16-0.52] and for rescue therapy it was 0.38 (95% CI 0.21-0.66). The finding shows that continuous 24 hour acustimulation decreases PONV, particularly in patients at high risk.

Nussey et.al.,(2007) Conducted a study to assess the effect of P6 acustimulation on post-operative nausea and vomiting in patients undergoing a laparoscopic cholecystectomy. A total of 200 patients undergoing a laparoscopic cholecystectomy with propofol (induction) and maintenance anaesthesia were included. In the acustimulation group, subdivided into groups with pre-induction and post-induction acustimulation, an active Relief Band device was placed at the P_6acupoint. In the sham group, similarly subdivided, an inactive device was applied instead. The Relief Band remained in place for 24 hours after surgery. Nausea and vomiting/retching were recorded at 2, 6, and 24 hours post-operatively. Result showed that incidence of early nausea (up to 2 hours) was significantly lower in the

acustimulation than in the sham group (29% vs. 42%; p=0.043). No significant effect could be detected for vomiting. The findings showed that acustimulation at the P_6acupoint reduces early nausea and vomiting, after laparoscopic cholecystectomy, irrespective of its pre- or post-induction application.

Samad K et al.,(2008) conducted a study to assess the effect of acupressure on postoperative nausea and vomiting in laparoscopic cholecystectomy. Participants n=50 patients undergoing laparoscopic cholecystectomy. Patients were divided into two groups – experimental and control. In the experimental group acupressure was applied at P_6 point half an hour before surgery, while in the control group no intervention was given. Patients were assessed for nausea and vomiting for six hours after surgery. Results showed that the incidence of postoperative nausea and vomiting was 36% in the treatment group and 40% in control group, which was statistically insignificant. The researchers concluded that application of acupressure at P_6 point half an hour before induction of anaesthesia significantly alter the incidence of postoperative nausea and vomiting within 6 hours after surgery.

Jones E et.al., (2008) conducted a study to assess the effectiveness of acupressure for chemotherapy-associated nausea and vomiting in children. Participants n=80 were selected for the study. Acupressure wrist bands and placebo bands were compared. Expectations and outcomes of nausea and vomiting were assessed by questionnaires. In general, patients expressed moderate expectations that acupressure would prevent nausea and vomiting. Following the session with an acupressure band, a third of all patients reported better than expected nausea prevention. There was significant difference in nausea or vomiting between the treatment groups, and there were no significant side effects from the bands. The

researchers concluded that acupressure using a band is feasible and more effective than placebo in this sample of patients.

Bridge P et al., (2009) conducted a study to assess the efficacy of acupressure wristbands for reduction of radiotherapy-induced nausea. Participants n=30 patients were recruited via radiotherapists. Nausea levels were assessed for a fortnight using a simple questionnaire and an anti-emetic tablet count. Comparing the 2 weeks data for these patients showed that there was a dramatic drop in their scores when the acupressure wristbands were used. There was a mean score drop of 61% for the combined nausea and vomiting frequency and severity. The researchers concluded that their study suggested that acupressure wristbands might have a reduction in the treatment of radiotherapy-induced nausea.

Roscoe JA et al., (2010) conducted a study to assess the acupressure bands are effective in reducing radiation therapy-related nausea. A total of 88 patients who experienced nausea at prior treatments were allocated to standard care alone, or standard care plus acupressure bands. Patients reported nausea for 2 days prior to randomization and for 5 days following using a seven-point semantic rating scale (1=not nauseated to 7=extremely nauseated). Results showed that Patients in the acupressure group reported greater reduction in average nausea than patients in the standard care alone group ($p=0.01$; mean (bands)=0.70, mean (no bands)=0.10). Researcher concluded that equates to a 23.8% decrease in nausea with acupressure compared to a 4.8% decrease in the control group, a difference of 19 percentage points. The findings showed that acupressure bands are an effective, low-cost, nonintrusive, well-accepted, and safe adjunct to standard antiemetic medication.

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology refers to the techniques used to structure a study and together and analyze information in a systematic fashion **(polit and hungler, 2008).** Methodology includes the steps, procedures and strategies for gathering and analyzing the data in the research investigation.

This chapter describes the methodology followed to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers.

This chapter deals with the methodology adopted in this study. It includes research design, variables, settings, population, sample, criteria for sample selection, sample size, sampling technique, development and description of tool, content validity, reliability, pilot study, data collection procedure and plan for data analysis.

RESEARCH APPROACH

Quantitative research approach was used in the study.

RESEARCH DESIGN

The research design selected for the study was quasi experimental pre and post-test control group design. It can be diagrammatically represented as:

Group	Pre-test	Intervention	Post-test
Experimental group	O_1	X	O_2
Control group	O_1	-	O_2

Figure:2 Schematic representation of quasi experimental design

Key

O_1 Pre-test level of nausea and vomiting in experimental group.

O_2 Post-test level of nausea and vomiting in experimental group .

X Acupressure

O_1 Pre-test level of nausea and vomiting in control group.

O_2 Post-test level of nausea and vomiting in control group.

VARIABLES

Independent Variable

Effect of Acupressure

Dependent Variable

Reduction of Nausea and vomiting

SETTING OF THE STUDY

The study was conducted in antenatal outpatient unit in Bensam hospital at Nagercoil town, Kanyakumari District. It's a 400 bedded hospital situated at the heart of the town. The hospital includes antenatal ward, postnatal ward, labour ward and gynecological ward. The hospital has separate obstetric operation theater and newborn resuscitation unit which function round a clock. Around 258 mothers come for out patient unit per month out of 255 mothers 105 mothers have nausea and vomiting.

POPULATION

The study Population consisted of antenatal mothers who come to outpatient unit.

SAMPLE

Sample consists of both primi and multi antenatal mothers who come to antenatal outpatient unit in Bensam hospital at kanyakumari who fulfill the inclusive criteria.

SAMPLE SIZE

The sample size consists of 60 antenatal mothers with nausea and vomiting. Out of which 30 of them are assigned to experimental group and 30 of them are assigned to the control group was chosen for the study.

SAMPLING TECHNIQUE

The samples were selected from Bensam Hospital mother whom come for outpatient department with nausea and vomiting were included in the study. The samples were selected by using non probability sampling technique under which the investigator selected the purposive sampling. In this mother 30 of them were in experimental group and other 30 of them were in control group.

CRITERIA FOR SAMPLE SELECTION

Inclusive Criteria

1. Both primi and multi antenatal mothers who were having nausea and vomiting.
2. Mothers who were willing to participate in the study.
3. Antenatal mothers with four to twelve weeks of gestation.

Exclusive Criteria

1. Mothers above the age of 35 years and below 20 years.
2. Mothers with high risk pregnancies.
3. Mothers with medical disorders.
4. Mothers with hyperemesis gravidum.
5. Mothers with grand multipara.

DEVELOPMENT AND DESCRIPTION OF TOOL

The tool was developed to assess the reduction of nausea and vomiting among antenatal mothers by using rating scale. The tool constructed in this study was divided as follows:

Section-A

This section consists of demographic variables such as age, gestational age, gravida, educational status, work pattern, type of family, and area of living.

Section-B

Rating scale was used to assess pre and post-test level of nausea and vomiting among antenatal mothers. It consists of 20 statements to assess the nausea and vomiting among antenatal mothers. Each statements has five categories such as never score is one, occasional score is two, sometimes score is three, often score is four, very often score is five. For every sentence will contain single score. The total score of rating scale was100.

The resulting scores were arranged as follows:

SCORE	NATURE OF NAUSEA AND VOMITING	DESCRIPTION OF NAUSEA AND VOMITING
1-33	Mild	Nauseated but occasional vomiting, can perform daily task.
34-66	Moderate	Nausea and vomiting mildly tolerable can perform daily task.
67-100	Severe	Nausea and vomiting was unbearable, feel tired. Cannot perform daily task.

INTERVENTION

The data collection was done for four weeks in Bensam Hospital at Kanyakumari. The aim of the study was explained to the antenatal mothers before starting the data collection, so extensive co-operation was achieved.

Every month antenatal mothers comes for outpatient unit for antenatal visit the investigator selected seven to eight cases for a week based on the inclusive criteria and by using purposive sampling technique. During antenatal visit history was collected based on the history of nausea and vomiting the mothers was selected for the study. After identification of the antenatal mothers, the demographic variables and other information related to the study were collected by interview method.

Day-1: Place the mother in sitting position comfortably. Pre-assessment level of nausea and vomiting for experimental and control group was done by rating scale. Place the women's index finger widths above the transverse crease of the inner wrist. Tip of the index finger indicates P_6 point. The investigator place thumb finger at the tip of the index finger. P_6 point is located 2 inches up to wrist bracelet, 0.5 - 1.0 deep between 2 tendons.P_6 point was located on the right hand and pressure was applied for 15minutes. Subsequently pressure was applied on the left hand also for 15 minutes. Acupressure was subsequently applied with the interval of 15 minutes for two times. Acupressure pressure applied for experimental group and no intervention for control group.

Day-2-5: The researcher visited a participant's house and applied Acupressure for experimental group. Day6: Acupressure massage applied for experimental group. Post-assessment was done for both experimental and control group by using rating scale.

CONTENT VALIDITY

The content validity of the tool was established on the opinion of two experts in the field of obstetrics and gynecology and three nursing experts. Tool was modified as per the consensus of all the experts and the tool was finalized.

RELIABILITY

Reliability of the tool was tested by the investigator and other maternity nursing expert personnel who were trained in the use of tools. The reliability of the tool was determined by using inter-rater observer technique. The reliability score was r = 0.8. Hence the tool was considered highly reliable for proceeding the study.

PILOT STUDY

The pilot study was a trial run for major study. The tools were used for the pilot study to test the feasibility and practicability. The pilot study was conducted in M.J. Hospital among six samples. A formal permission was obtained from the director of the M.J. Hospital. The mothers selected for the pilot study was not included in the main study. The pilot study period was one week from 23.3.11 to 28.3.11 from 7am to 6pm.

During antenatal visit history was collected based on the history of nausea and vomiting the mothers was selected for the study. The investigator introduced her to the mothers and established rapport with the mothers. Data pertaining to demographic variables were collected by interview method. Investigator assessed pre and post-test reduction of nausea and vomiting by using rating scale. Data collection was done in the same setting for a period of six days. The investigator selected six samples by using purposive sampling technique. Out of six samples three samples were allotted

for experimental group and three samples were allotted for control group. After assessing the pre-test level of nausea and vomiting among antenatal mothers for both the groups, the investigator gave acupressure for three samples of experimental group and no intervention for three samples of control group. Acupressure is applying pressure over P_6 of left hand and right hand for 15 minutes in experimental group. At the end of the intervention, the post-test level of nausea and vomiting was scored for both the groups by using rating scale. The investigator has spent one hour for each sample.

The pilot study revealed that there was a highly significant difference between the pre-test and post-test level of nausea and vomiting among antenatal mothers in experimental and control group at $p<0.001$ level. The finding shows that acupressure was effective in reduction of nausea and vomiting among antenatal mothers. It was feasible and practicable to conduct the main study. There was no modification made in the tool after the pilot study.

DATA COLLECTION PROCEDURE

The researcher got permission from principal and research committee of Sri.K.Ramachandran Naidu College of nursing. Formal permission was obtained from the Dean of the Bensam Hospital for conducting the main study. Data collection period was conducted for four consecutive weeks from 4.04.2011 to 30.04.2011. The investigator collected the data for six days a week that means Monday to Saturday from 7am to 5pm.

Every month antenatal mothers comes for outpatient unit for antenatal visit the investigator selected seven to eight cases for a week based on the inclusive criteria and by using purposive sampling technique. During antenatal visit history was

collected based on the history of nausea and vomiting the mothers was selected for the study. The investigator established rapport with antenatal mothers with nausea and vomiting. They were assured that no physical (or) emotional harm would be done in the course of study. Based on inclusive criteria the samples were selected and allotted to experimental group and control group. The procedure for data collection was similar to that of the pilot study. Using purposive sampling technique 60 antenatal mothers with nausea and vomiting were selected. Out of 60 samples 30 samples were allotted for experimental group, and 30samples were allotted for control group. The investigator gave acupressure for 30 samples of experimental group and 30 samples of control group were not given acupressure.

Data pertaining to the demographic variables were collected by interview method. The investigator assessed the level of reduction of nausea and vomiting by using rating scale and scored. First the investigator assessed the pre-test level of nausea and vomiting for both the groups. Mild, moderate, severe nausea and vomiting with tolerable were selected for the study. After this the investigator gave acupressure for experimental group. Acupressure is applying pressure over P_6 of left hand and right hand for15 minutes in experimental group. No intervention was given for control group. The investigator has spent one hour for each sample. The researcher visited a participant's house for two to six day and applied Acupressure for experimental group. At the end of the sixth day, the post-test level of nausea and vomiting was scored for both a groups by using rating scale. Data collection was analyses by using descriptive and inferential statistics.

PLAN FOR DATA ANALYSIS

Both descriptive and inferential statistics was used.

Descriptive Statistics

1. The frequency and percentage distribution were used to analysis the demographic variables among antenatal mothers in experimental and control group with nausea and vomiting.
2. The frequency and percentage distribution were used to assess the level of reduction of nausea and vomiting among antenatal mothers in experimental and control group.
3. Mean and standard deviation were used to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group.

Inferential Statistics

1. Unpaired 't'-test was used to compare the post-test level of nausea and vomiting among antenatal mothers in experimental and control group.
2. Paired 't'- test was used to compare the pre and post-test level of nausea and vomiting among antenatal mothers in experimental and control group.
3. Chi –square used to find out the association of the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

PROTECTION OF HUMAN SUBJECT

The proposed study was conducted after the approval of research committee of the college. Permission was sought from the director of the Bensam Hospital. The written consent of each individual was obtained before data collection. Assurance was given to the study participants regarding the confidentiality of the data collection

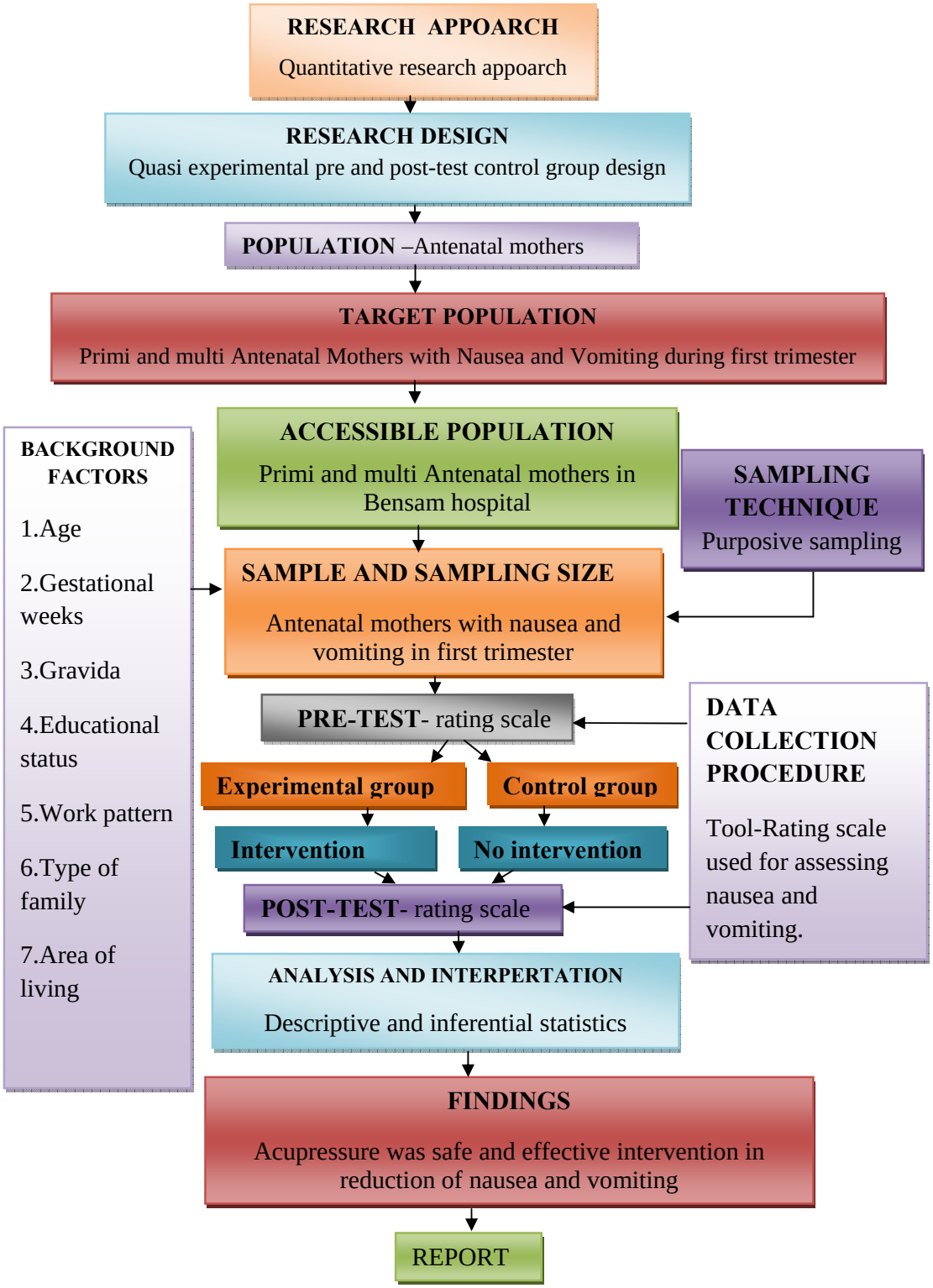

FIGURE: 3 SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data related to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari District.

Descriptive and inferential statistics were used for analyzing the data on the basis of the objectives of the study. The data has been tabulated and organized as follows.

ORGANIZATION OF DATA

Section-A : Description of demographic variables of the antenatal mothers with nausea and vomiting.

⇒ Frequency and percentage distribution of demographic variables of antenatal mother.

Section-B : Assessment level of nausea and vomiting among antenatal mothers in experimental and control group.

⇒ Assessment of the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.

⇒ Assessment of the post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

Section-C : Comparison of pre and post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

⇒ Comparison of mean and standard deviation of the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group.

⇒ Comparison of mean and standard deviation of pre and post-test level of nausea and vomiting among antenatal mothers in control group.

⇒ Comparison of mean and standard deviation of the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.

⇒ Comparison of mean and standard deviation of the post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

Section-D : Association of the post-test level of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

⇒ Association of the post-test level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables.

⇒ Association of the post-test level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables.

SECTION-A:

DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE ANTENATAL MOTHERSWITH NAUSEA AND VOMITING

Table-1: Frequency and Percentage Distribution of Demographic Variables of Antenatal Mothers.

(N=60)

S. No	Demographic Variables	Experimental Group (n=30)		Control Group (n=30)		Total (N=60)	
		f	%	f	%	N	%
1.	**Age**						
	> 20 years	4	13.3	2	6.6	6	10
	21 – 24 years	13	43.3	14	46.6	27	45
	25-30 years	9	30	9	30	18	30
	31-35 years	4	13.3	5	16.6	9	15
2.	**Gestational weeks**						
	4-6 weeks	7	23.3	6	20	13	21.7
	7-9 weeks	19	63.3	15	50	34	56.6
	10-12 weeks	4	13.3	9	30	13	21.7
3.	**Gravida**						
	I	17	56.6	16	53.3	33	55
	II	10	33.3	12	40	22	36.6
	III	3	10	2	6.6	5	8.3
4.	**Education status**						
	Illiterate	--	--	--	--	--	--
	Primary	2	6.6	2	6.6	4	6.6
	Secondary	9	30	5	16.6	14	23.3

(Table 1 Cont ….)

S. No	Demographic Variables	Experimental Group (n=30)		Control Group (n=30)		Total (N=60)	
		f	%	f	%	N	%
	Higher Education	10	33.3	11	36.6	21	35
	Graduate	9	30	12	40	21	35
5.	**Work Pattern**						
	Sedentary	11	36.6	12	40	23	38.3
	Moderate	14	46.6	12	40	26	43.3
	Heavy	5	16.6	6	20	11	18.3
6.	**Type of Family**						
	Nuclear	19	63.3	20	66.6	39	65
	Joint	7	23.3	7	23.3	14	23.3
	Extended	4	13.3	3	10	7	11.6
7.	**Area of Living**						
	Urban	18	60	19	63.3	37	61.6
	Semi urban	8	26.6	9	30	17	28.3
	Rural	4	13.3	2	6.6	6	10

Table 1 Describes about the frequency and percentage distribution of demographic variables of antenatal mothers with respect to age, gestational weeks, gravida, educational status, work pattern, type of family and area of living.

In experimental group with regards to the age 13 (43.3%) were 21-24 years, 9 (30%) were 25-30 years, 4 (13.3%) were less than 20 years, 4 (13.3%) were 31-35 years.

In experimental group with regards to the weeks of gestation 19 (63.3%) had a 7-9 weeks of gestation, 7 (23.3%) had a 4-6weeks, 4 (13.3%) had a 10-12weeks.

In experimental group with regards to the gravida 17 (56.6%) were I gravida, 10 (33.3%) were II gravida, 3 (10%) were III gravida.

In experimental group on analysis of educational status10 (33.3%) completed their higher secondary education, 9 (30%) completed their graduation, 9 (30%) completed their secondary education, 2 (6.6%) completed their primary education.

In experimental group with regards of work pattern 14 (46.6%) were moderate workers, 11 (36.6%) were sedentary workers, 5 (16.6%) were heavy workers.

In experimental group with respect to the type of family 19 (63.3%) were from nuclear families, 7 (23.3%) were from joint families, 4 (13.3%) were from extended families.

In experimental group with regards of area of living 18 (60%) of the mothers living in urban area, 8(26.6%) of the mothers living in semi urban area, 4 (13.3%) of the mothers living in rural area.

In control group with regards to the age 14 (46.66%) were 21-24 years, 9 (30%) were 25-30 years, 5 (16.6%) were 31-35 years, 2 (6.6%) were less than 20 years.

In control group with regards to the weeks of gestational age 15 (50%) had a 7-9 weeks, 9 (30%) had a 10-12 weeks, 6 (20%) had a 4-6 weeks.

In control group with regards to the gravida16 (53.3%) were I gravida, 12 (40%) were II gravida, 2 (6.6%) were III gravida.

In control group on analysis of educational status 12 (40%) completed their graduation, 11 (36.6%) completed their higher education, 5 (16.6%) completed their secondary education, 2 (6.6%) completed their primary education.

In control group with regards of work pattern 12 (40%) were sedentary workers, 12 (40%) were completed moderate workers, 6 (20%) were heavy workers.

In control group with respect to the type of family 20 (66.6%) were from nuclear families, 7 (23.3%) were from joint families, 3 (10%) were from extended families.

In control group with regards of area of living 19 (63.3%) of the mothers living in urban area, 9 (30%) of the mothers living in semi urban area, 2 (6.6%) of the mothers living in rural area.

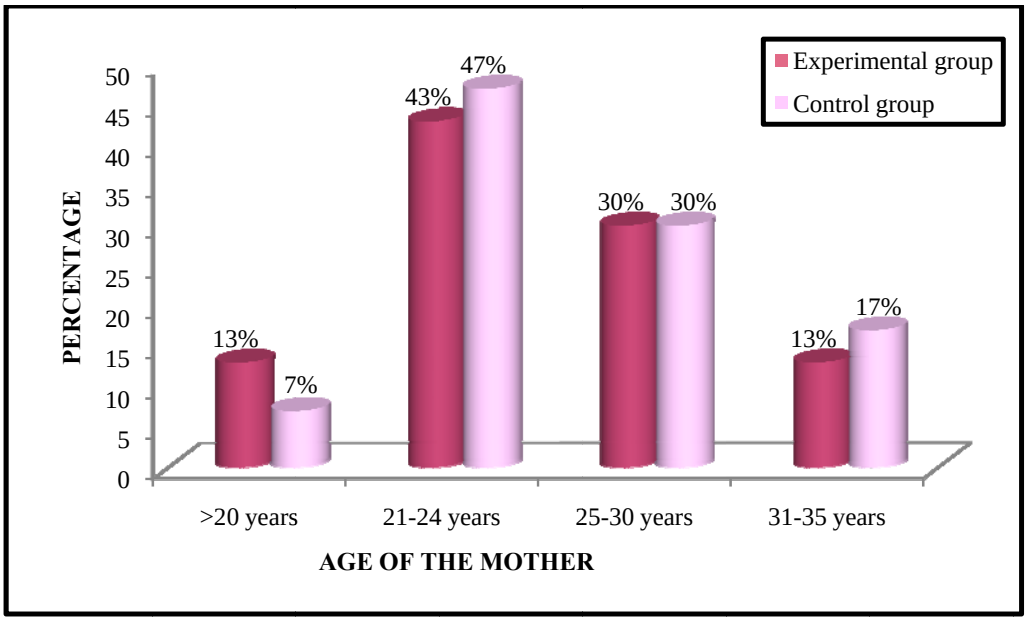

Figure -4: Percentage distribution of age among antenatal mothers in experimental and control group.

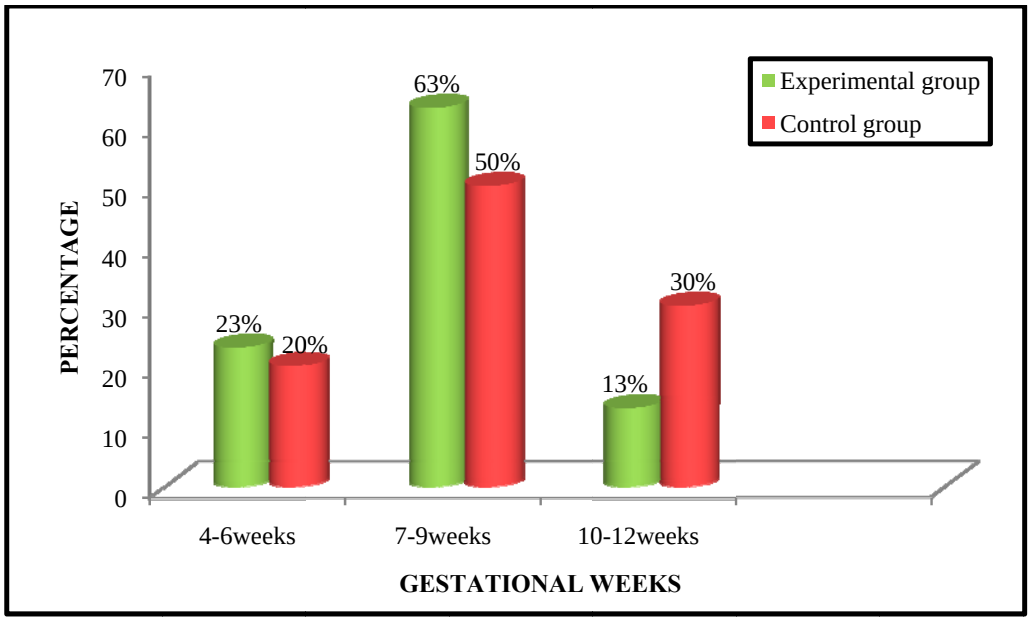

Figure - 5: Percentage distribution of gestational weeks among antenatal mothers in experimental and control group.

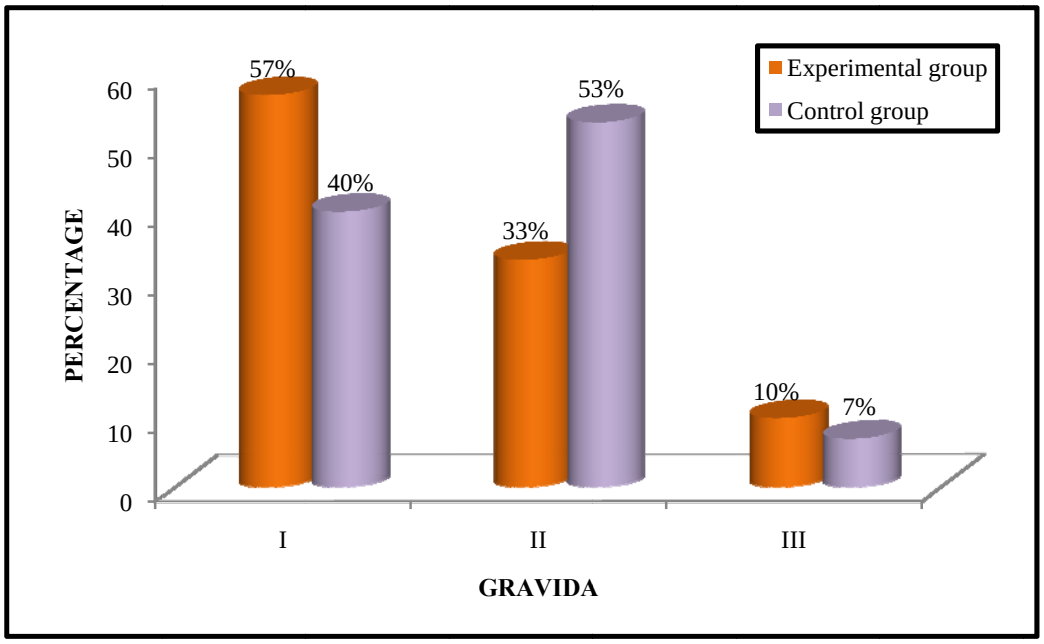

Figure-6: Percentage distribution of gravida among antenatal mothers in experimental and control group.

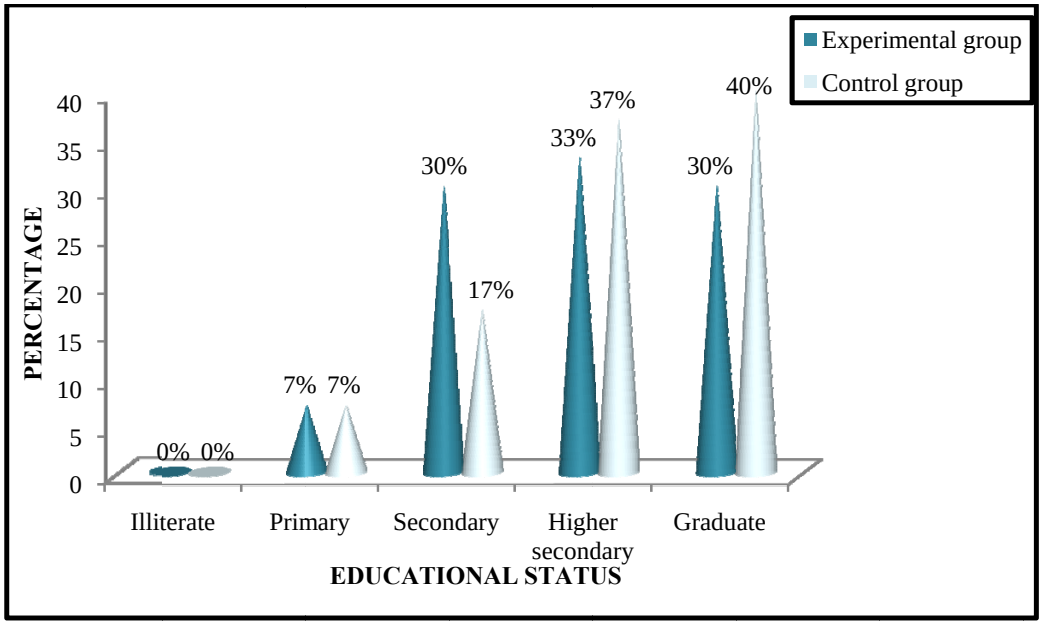

Figure-7: Percentage distribution of educational status among antenatal mothers in experimental and control group.

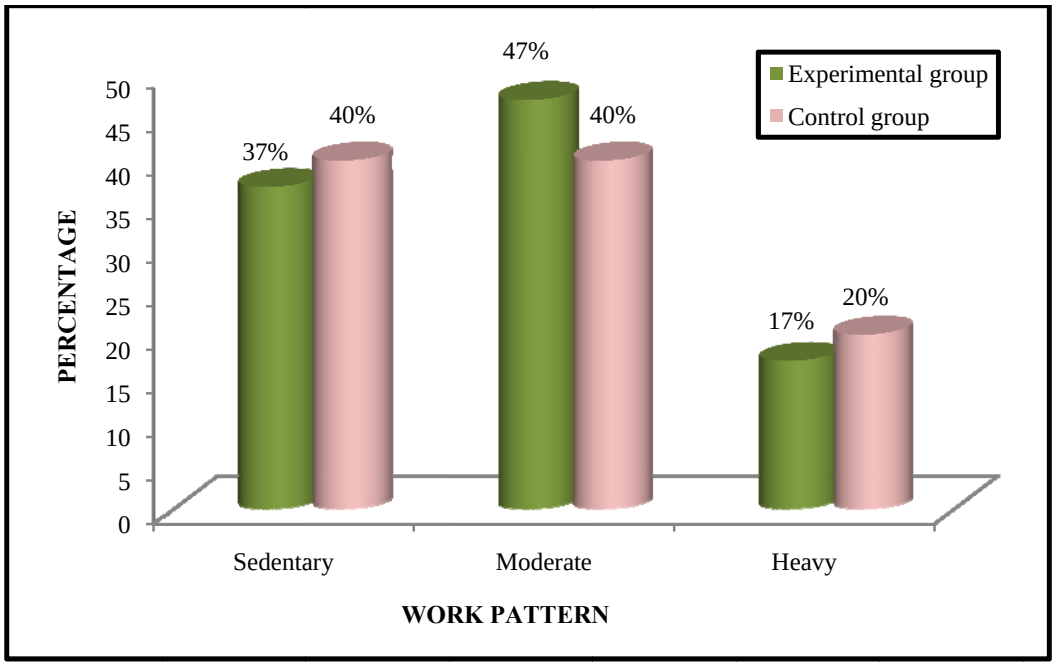

Figure-8: Percentage distribution of work pattern among antenatal mothers in experimental and control group.

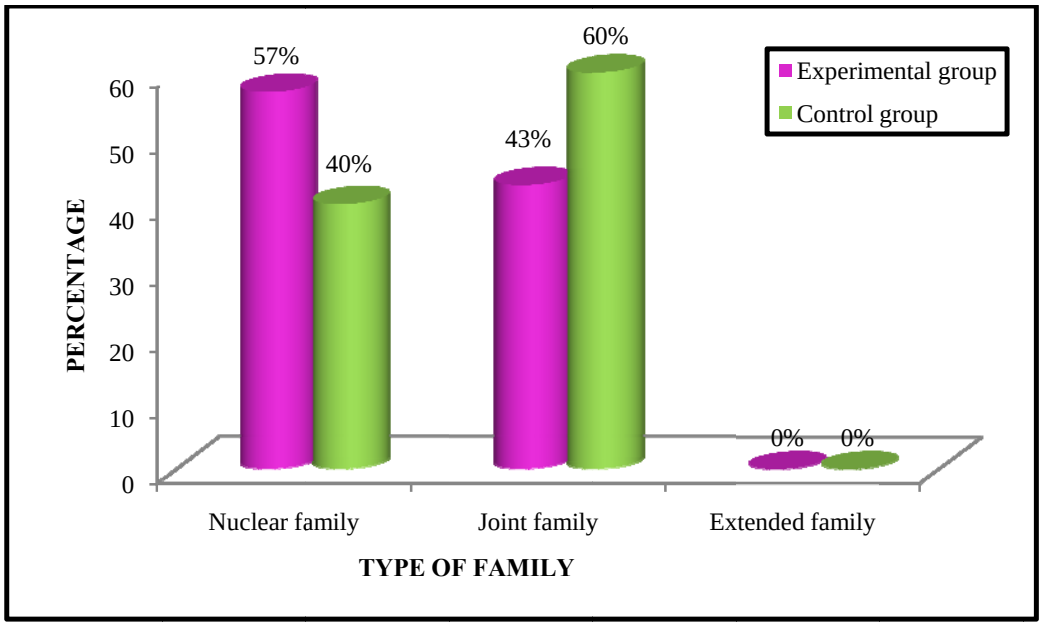

Figure-9: Percentage distribution of type of family among antenatal mothers in experimental and control group.

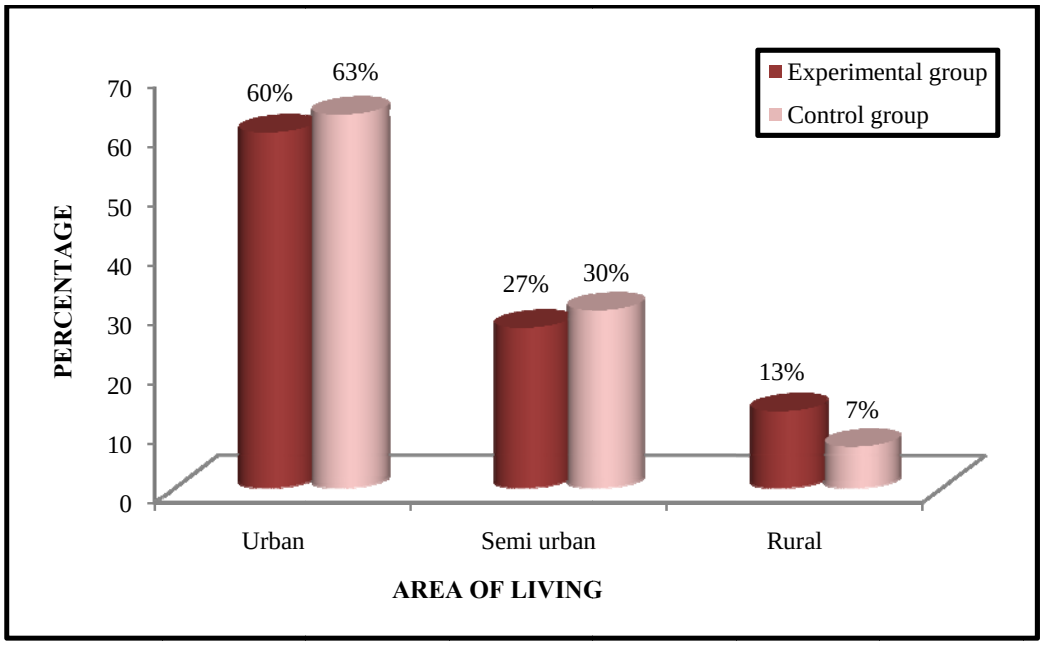

Figure-10: Percentage distribution of area of living among antenatal mothers in experimental and control group.

SECTION-B

ASSESSMENT THE LEVEL OF NAUSEA AND VOMITING AMONG ANTENATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP.

Table-2: Assessment of the Pre-test Level of Nausea and Vomiting Among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No	Group	Level of nausea and vomiting					
		Mild		Moderate		Severe	
		f	%	f	%	f	%
1.	Experimental Group	5	16.66	17	56.66	8	26.66
2.	Control Group	5	16.66	21	70	4	13.33

The table 2 reveals the frequency and percentage distribution of pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.

With regard to the level of nausea and vomiting in experimental group, out of 30 antenatal mothers, 5(16.6%) of the mothers had mild nausea and vomiting, 17 (56.6%) of the mothers had moderate nausea and vomiting and 8(26.6%) of the mothers had severe nausea and vomiting.

With regard to the level of nausea and vomiting in control group, out of 30 antenatal mothers, 5(16.6%) of the mothers had mild nausea and vomiting, 21(70%) of the mothers had moderate nausea and vomiting, 4(13.3%) of the mothers had severe nausea and vomiting.

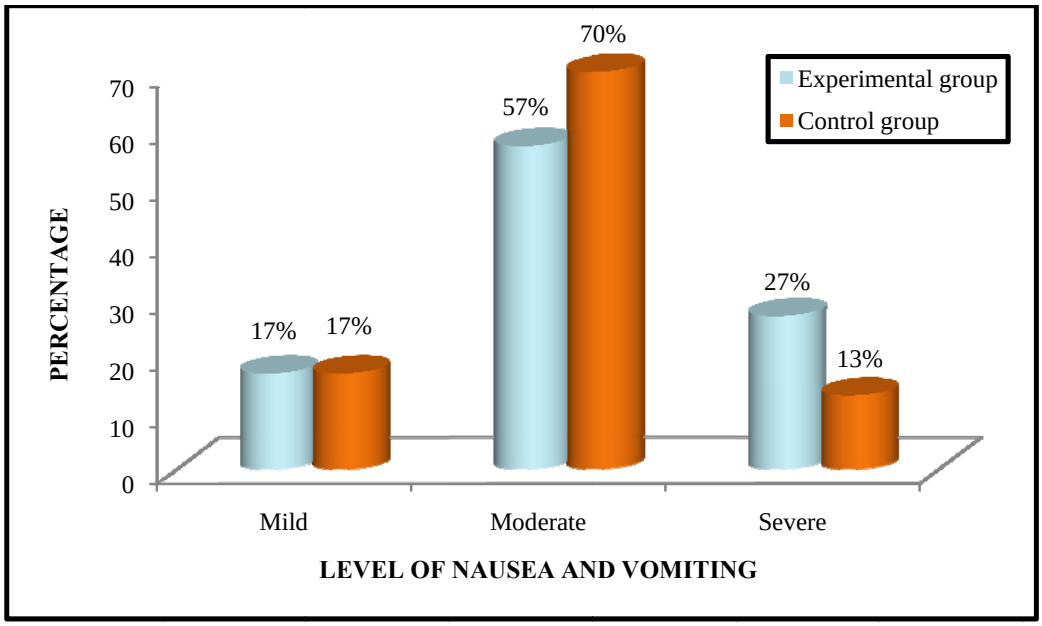

Figure-11: Percentage distribution of pre-test level of nausea and vomiting among antenatal mothers in experimental and control Group.

<u>Table-3:</u> Mean and Standard Deviation of Pre-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Mean	Standard Deviation
1.	Experimental Group	2.1	0.64
2.	Control Group	1.96	0.56

Table 3 reveals the mean and standard deviation of pre-test level of nausea and vomiting among antenatal mothers in experimental and control group. With regard to experimental group the pre-test mean value was 2.1 with standard deviation of 0.64 in experimental group. In control group the mean value was 1.96 with standard deviation of 0.56.

Table-4: Assessment of the Post-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Level of nausea and vomiting					
		Mild		Moderate		Severe	
		f	%	f	%	f	%
1.	Experimental Group	14	46.6	16	53.3	0	0
2.	Control Group	9	30	17	56.6	4	13.3

The table 4 reveals the frequency and percentage distribution of post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

With regard to the level of nausea and vomiting in experimental group 14 (46.6%) of the mothers had mild nausea and vomiting, 16 (53.3%) of the mothers had moderate nausea and vomiting and none of the mothers had severe nausea and vomiting.

With regard to the level of nausea and vomiting in control group 9 (30%) of the mothers had mild nausea and vomiting, 17 (56.6%) of the mothers had moderate nausea and vomiting and 4 (13.3%) of the mothers had severe nausea and vomiting.

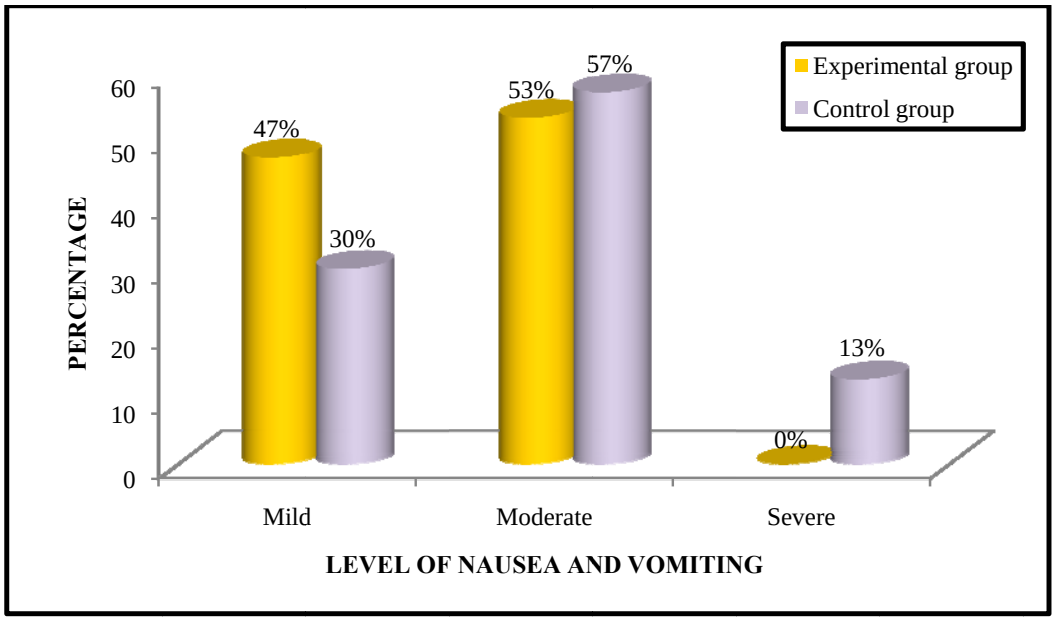

Figure-12: Percentage distribution of post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

Table-5: Mean and Standard Deviation of Post-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Mean	Standard Deviation
1.	Experimental Group	1.53	0.50
2.	Control Group	1.86	0.63

Table 5 reveals the mean and standard deviation of the post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

With respect to experimental group the post-test mean was 1.53 with standard deviation of 0.50. The mean of control group was 1.86 with standard deviation of 0.63.

SECTION-C

COMPARISON OF PRE AND POST-TEST LEVEL OF NAUSEA AND VOMITING AMONG ANTENATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP

Table-6: Comparison of Mean and Standard Deviation of the Pre and Post-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental Group.

(N=30)

S. No.	Test	Mean	Standard Deviation	Mean Difference	't' value
1.	Pre-test	2.1	0.64	0.57	t=6.896 S
2.	Post-test	1.53	0.50		

S- Significant.

Table 6 shows the Paired 't' test to compare mean and standard deviation of the pre-test and post-test level of nausea and vomiting among antenatal mothers in experimental group.

The pre-test mean value was 2.1 with standard deviation of 0.64 and the post-test mean value was 1.53 with standard deviation of 0.50The mean difference was 0.57 and the calculated 't' value was 6.896 which showed that there was a significant difference between the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group at $p<0.05$ level of significance. Hence hypothesis was accepted.

Table 7: Comparison of Mean and Standard Deviation of Pre and Post-Test Level of Nausea and Vomiting among Antenatal Mothers in Control Group.

(N=30)

S.No	Test	Mean	Standard Deviation	Mean difference	Level of significant 't' value
1.	Pre-test	1.96	0.56	0.1	t = 2.460 NS
2.	Post-test	1.86	0.63		

NS- Non significant.

Table 7 shows the Paired 't' test to compare mean and standard deviation of the pre and post-test level of nausea and vomiting among antenatal mothers in control group.

The pre-test mean value was 1.96 with standard deviation of 0.56 and the post test mean was 1.86 with standard deviation of 0.63. The mean difference was 0.1 and the calculated 't' value was 2.460 which showed that there is no significant difference between pre and post test level of nausea and vomiting among antenatal mothers in control group at $p<0.05$ level of significance. Hence hypothesis was rejected.

Table-8: Comparison of Mean and Standard Deviation of the Pre-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No	Group	Mean	Standard Deviation	Level of significance 't' Value
1.	Experimental Group	2.1	0.64	1.08 **NS**
2.	Control Group	1.96	0.56	

NS- Non significant.

Table 8 reveals the unpaired 't' test to compare mean and standard deviation of the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.

In experimental group mean value were 2.1 with standard deviation of 0.64. In control group mean value was 1.96 with standard deviation of 0.56.The calculated 't' value was 1.08 indicating that there is no significant difference in pre-test level of nausea and vomiting among antenatal mothers in experimental and control group at $p<0.05$ level. Hence hypothesis was rejected.

Table-9: Comparison of Mean and Standard Deviation of the Post-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental and Control Group.

(N=60)

S. No	Group	Mean	Standard Deviation	Level of significance 't' value
1.	Experimental Group	1.53	0.50	4.142 S
2.	Control Group	1.86	0.63	

S- Significant.

Table 9 reveals the unpaired 't' test to compare the mean and standard deviation of the post-test level of nausea and vomiting among antenatal mothers in experimental and control group.

In experimental group mean value was 1.53 with standard deviation of 0.50. In control group mean value was 1.86 with standard deviation of 0.63. The calculated 't' value was 4.142 indicating that there was a significant difference in post-test level of nausea and vomiting among antenatal mothers in experimental and control group at $p<0.05$ level. Hence hypothesis was accepted.

SECTION-D

ASSOCIATION OF THE POST LEVEL OF NAUSEA AND VOMITING AMONGANTENATAL MOTHERS IN EXPERIMENTAL AND CONTROL GROUP WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

Table-10: Association of the Post-test Level of Nausea and Vomiting among Antenatal Mothers in Experimental Group with their Selected Demographic Variables. (N=30)

S. No	Demographic Variables	Level of Nausea and Vomiting						χ^2 Value
		Mild		Moderate		Severe		
		f	%	f	%	f	%	
1.	**Age**							
	> 20 years	2	6.6	2	6.6	0	0	11.14 df=3 S
	21 – 24 years	2	6.6	11	36.6	0	0	
	25-30 years	6	20	3	10	0	0	
	31-35 years	4	13.3	0	0	0	0	
2.	**Gestational weeks**							
	4-6 weeks	4	13.3	3	10	0	0	7.089 df=2 S
	7-9 weeks	6	20	13	43.3	0	0	
	10-12 weeks	4	13.3	0	0	0	0	
3.	**Gravida**							
	I	4	13.3	13	43.3	0	0	9.26 df=2 S
	II	7	23.3	3	10	0	0	
	III	3	10	0	0	0	0	

(Table 10 Cont..)

S. No	Demographic Variables	Level of Nausea and Vomiting						χ^2 Value
		Mild		Moderate		Severe		
		f	%	f	%	f	%	
4.	**Education status**							
	Illiterate	0	0	0	0	0	0	3.382 df=4 NS
	Primary	2	6.6	0	0	0	0	
	Secondary	5	16.6	4	13.3	0	0	
	Higher Education	4	13.3	6	20	0	0	
	Graduate	3	10	6	20	0	0	
5.	**Work Pattern**							
	Sedentary	4	13.3	7	23.3	0	0	0.879 df=2 NS
	Moderate	7	23.3	7	23.3	0	0	
	Heavy	3	10	2	6.6	0	0	
6.	**Type of Family**							
	Nuclear	8	26.6	11	36.6	0	0	0.481 df=2 NS
	Joint	4	13.3	3	10	0	0	
	Extended	2	6.6	2	6.6	0	0	
7.	**Area of Living**							
	Urban	6	20	12	40	0	0	5.896 df=2 NS
	Semi urban	4	13.3	4	13.3	0	0	
	Rural	4	13.3	0	0	0	0	

NS- Non Significant, S- Significant

Table 10 shows the association of the post-test level of Nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables.

So, the study findings shows that there was a significant association in age, gestational weeks, and gravida except education status, work pattern, type of family, area of living, among antenatal mothers in experimental group with their demographic variables at $p<0.05$ level. So hypothesis was rejected.

Table-11: Association of the Post-test Level of Nausea and Vomiting among Antenatal Mothers in Control Group with their Selected Demographic Variables

(N=30)

S. No	Demographic Variables	Level of Nausea and Vomiting						χ^2 Value
		Mild		Moderate		Severe		
		f	%	f	%	f	%	
1.	**Age**							
	> 20 years	0	0	2	6.6	0	0	1.132 df=3 NS
	21 – 24 years	4	13.3	7	23.3	3	10	
	25-30 years	3	10	5	16.6	1	3.3	
	31-35 years	2	6.6	3	10	0	0	
2.	**Gestational weeks**							
	4-6 weeks	1	3.3	4	13.3	1	3.3	14.15 df=2 S
	7-9 weeks	1	3.3	11	36.6	3	10	
	10-12 weeks	7	23.3	2	6.6	0	0	
3.	**Gravida**							
	I	6	20	10	33.3	0	0	7.775 df=2 S
	II	1	3.3	7	23.3	4	13.3	
	III	2	6.6	0	0	0	0	
4.	**Education**							
	Illiterate	0	0	0	0	0	0	0.97 df=4 NS
	Primary	1	3.3	1	3.3	0	0	
	Secondary	1	3.3	2	6.7	2	6.7	
	Higher Education	4	13.4	6	20	1	3.3	
	Graduate	3	10	8	26.7	1	3.3	

(Table 11 Cont…)

S. No	Demographic Variables	Level of Nausea and Vomiting						χ^2 Value
		Mild		Moderate		Severe		
		f	%	f	%	f	%	
5.	**Work Pattern**							
	Sedentary	3	10	7	23.3	2	6.6	1.426 df=2 NS
	Moderate	3	10	7	23.3	2	6.6	
	Heavy	3	10	3	10	0	0	
6.	**Type of Family**							
	Nuclear	5	16.6	12	40	3	10	0.798 df=2 NS
	Joint	3	10	3	10	1	3.3	
	Extended	1	3.3	2	6.6	0	0	
7.	**Area of Living**							
	Urban	8	26.6	7	23.3	4	13.3	5.203 df=2 NS
	Semi urban	1	3.3	8	26.6	0	0	
	Rural	0	0	2	6.6	0	0	

NS- Non Significant, S- Significant

Table 11 shows the association of the post-test level of Nausea and vomiting among antenatal mothers in control group with their selected demographic variables.

So, the study findings shows that there was a significant association in gestational weeks, and gravida except age, educational status, work pattern, type of family, area of living of post-test level of nausea and vomiting among antenatal mothers in control group with their demographic variables at $p<0.05$ level. Hence hypothesis was rejected.

CHAPTER – V

DISCUSSION

This chapter deals with the discussion of the data analyzed based on the objectives and hypothesis of the study. The problem stated is "A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers who comes for out patient unit in Bensam Hospital at Kanyakumari District". The discussion is based on the objectives of the study and the hypothesis specified in the study.

MAJOR FINDINGS

- With regards to distribution of age, 13(43.3%) in experimental group and 14(46.6%) in control group were between 21-24 years.
- Maximum numbers of participants in experimental group 19(63.3%) in control group 15(50%) were 7-9 gestational weeks.
- With regards to Ist gravid 17 (56.6%) belongs to experimental group and 16(53.3%) belongs to control group.
- With regards to education, 10(33.3%) in experimental group were from higher secondary education and 12(40%) in control group were from graduate education.
- With regards to the occupation of the sample, 14(46.6%) in experimental group and 12(40%) in control group were moderate workers.
- With regards to the type of family, 19(63.3%) in experimental group and 20(66.6%) in control group were from nuclear family.

- With regards to the area of living, 18(60%) in experimental group and 19(63.3%) in control group were from urban area.
- In experimental group the pre-test mean value was 2.1 with the standard deviation 0.64 and in control group the pre-test mean value was 1.9 with the standard deviation 0.56. The calculated ‘t’ value was 1.08 at $p<0.05$ level.
- In experimental group the post-test mean value was 1.53 with the standard deviation 0.50 and in control group the post-test mean value was1.86 with the standard deviation 0.63. The calculated ‘t’ value was 4.142 at $p<0.05$ level.

The first objective was to assess the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.

The analysis of pre intervention level of nausea and vomiting revealed that the majority of antenatal mothers in experimental group 17 (56.6%) of mothers had moderate nausea and vomiting, 8 (26.6%) of the mother had severe nausea and vomiting 5 (16.6%) of them had mild nausea and vomiting.

With regards to control group the analysis of the pre intervention level of nausea and vomiting revealed that the majority of antenatal mothers in control group 21 (70%) of mothers had moderate nausea and vomiting, 5 (16.6%) of the mother had mild nausea and vomiting 4(13.3%) of them had mild nausea and vomiting.

The pre-test level of nausea and vomiting mean value in experimental group was 2.1 with standard deviation of 0.64 and pre-test level of nausea and vomiting mean value in control group was 1.96 with standard deviation of 0.56. The calculated ‘t’ value of the pre-test level of nausea and vomiting in experimental and control group was 1.08.

Hence the research hypothesis stated earlier that there is no significant difference in the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group was rejected at $p<0.05$ level.

Delaram M (2003) was conducted a study about the effect of acupressure using sea band on the severity of nausea and vomiting in pregnancy, ShahrKord University. In a clinical trial study, 100 primigravida women with gestational age of 4 to 12 weeks, single foetus and complaint of nausea and vomiting. Checklist was filled for every person and all participants received forms for recording nausea and vomiting status for four days. Data analysis was done by SPSS software using Chi square, t-test and Wilcoxon tests. Results showed that there is a significant difference in nausea severity and frequency of vomiting in case group before and after treatment ($P<0.001$). There was no significant difference in reduction of nausea severity and frequency of vomiting in control group. The conclusion says that acupressure is effective in treatment of nausea and vomiting during pregnancy and Sea Band is a cheap, comfortable, available and without side effect device which is suggested for reduction of nausea and vomiting in pregnancy.

The second objective was to find out the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group.

The analysis of post intervention level of experimental group revealed that the majority of antenatal mothers were none of them had a severe nausea and vomiting, 16(53.33%) had a moderate nausea and vomiting and 14(46.66%) had a mild nausea and vomiting.

The analysis of post intervention level of control group 4(13.33%) of them had a severe nausea and vomiting, 17(56.66%) had a moderate nausea and vomiting and 9(30%) had a mild nausea and vomiting.

The post-test level of nausea and vomiting mean value in experimental group was 1.53 with standard deviation of 0.50. The post-test level of nausea and vomiting mean value in control group was 1.86 with standard deviation of 0.63.The calculated‘t’ value of the post-test level of nausea and vomiting among antenatal mothers in control group was 4.142.

Hence the research hypothesis stated earlier that there is a significant difference in the post-test level of nausea and vomiting among antenatal mothers in experimental and control group was accepted at $p<0.05$ level.

The third objective was to compare the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group.

The pre assessment level of nausea and vomiting mean value in experimental group was 2.1, with standard deviation of 0.64. The post assessment level of nausea and vomiting mean value in experimental group was 1.53, with standard deviation of 0.50.

The calculated ‘t’ value of the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group was 6.89.

Hence the research hypothesis stated earlier that there is a significant difference between pre and post-test level of nausea and vomiting among antenatal mothers in experimental group was accepted at $P<0.05$ level.

The fourth objective was to compare the pre and post-test level of nausea and vomiting among antenatal mothers in control group.

The pre assessment level of nausea and vomiting mean value in control group was 1.96 with standard deviation of 0.56. The post assessment level of nausea and vomiting mean value in control group was1.86, with standard deviation of 0.63. The calculated 't' value of the level of nausea and vomiting among antenatal mothers in control group was 2.460 at $p<0.05$ level.

Hence the research hypothesis stated earlier that there was no significance difference in pre and post-test level of nausea and vomiting among antenatal mothers in control group was rejected at $p<0.05$ level.

The fifth objective to associate the post-test level of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

Association of post assessment level of nausea and vomiting with demographic variables was done by using chi-square.

Data findings revealed that there was a statistically significant association of post assessment level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables in age, gestational weeks and gravida expect educational status, work pattern, type of family, area of living at $p<0.05$ level of significance. Hence the research hypothesis stated earlier there is no significant association of post-test level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables was rejected at $p<0.05$ level.

Data findings revealed that there was a statistically significant association of post assessment level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables in gestational weeks and gravida expect age, educational status, work pattern, type of family, area of living at $p<0.05$ level of significance. Hence the research hypothesis stated earlier there is no significant association of post-test level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables was rejected at $p<0.05$ level.

CHAPTER-VI

SUMMARY, CONCLUSION, IMPLICATION, LIMITATION AND RECOMMENDATION

This chapter deals with the summary, conclusion, implications, limitation and recommendations.

SUMMARY

Nausea and vomiting are uncomfortable and sometimes debilitating symptoms encountered in early pregnancy. Many of the conventional remedies offer only partial to negligible relief. Nausea and vomiting in pregnancy has traditionally been supportive, with dietary modification for mild cases. The diagnosis may seem straight forward it is important for primary care physicians never look the other obstetrical and non-obstetrical causes in the differential diagnosis of nausea and vomiting. Studies of nausea and vomiting in pregnancy are often made more challenging because of the subjective nature of the symptom of nausea versus the objective sign of vomiting.

Acupressure is a very helpful procedure to reduce nausea and vomiting and many other ailments. It is a type of traditional Chinese medicine in which pressure is applied on the pressure points to reduce the problems. It can be done oneself safely or can be done by a professional. So, the investigator assessed the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers who came to the outpatient unit in Bensam Hospital at Kanyakumari District.

The objectives of the study were,

1) To assess the pre-test level of nausea and vomiting among antenatal mothers in experimental and control group.
2) To find out the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in experimental and control group.
3) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in experimental group.
4) To compare the pre and post-test level of nausea and vomiting among antenatal mothers in control group.
5) To associate the post-test level of nausea and vomiting among antenatal mothers in experimental and control group with their selected demographic variables.

The hypothesis for the study were,

H_1 Mean post-test level of nausea and vomiting among antenatal mothers in experimental group was significantly lower than the mean post-test level of nausea and vomiting among antenatal mothers in control group.

H_2 There was a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in experimental group.

H_3 There was a significant difference between mean pre-test and post-test level of nausea and vomiting among antenatal mothers in control group.

H_4 There was a significant association between post-test level of nausea and vomiting among antenatal mothers in experimental group mothers with their selected demographic variables.

H_5 There was a significant relationship between post-test level of nausea and vomiting among antenatal mothers in control group mothers with their selected demographic variables.

The assumptions of this study were,

1. Antenatal mother with nausea and vomiting may predispose discomfort, restlessness, fear, anxiety and fatigue.
2. Untreated nausea and vomiting among antenatal mothers may report that the discomfort, anxiety and restlessness.
3. Acupressure will reduce nausea and vomiting in antenatal mothers.

Review of Literature Collected for the Studies Related to Nausea and Vomiting

The literature gathered from exclusive criteria review was depicted under the following heading.

Section-A: Studies related to nausea and vomiting during pregnancy.

Section-B: Studies related to acupressure on reduction of nausea and vomiting during pregnancy.

Section-C: Studies related to acupressure for other ailments.

The conceptual frame work opted for the study was based on Modified Sister callista Roy's adaptation of clinical nursing theory and it provided a complete framework in order to achieve the objectives of the study.

The research design selected for the study was quasi experimental pre and post-test design. The study was conducted in the antenatal Outpatient unit in Bensam Hospital. The tool used for data collection consisting of demographic variables such as Age, gestational weeks, gravida, education status, work pattern, type of the family,

area of living. Rating scale was used to assess the level of nausea and vomiting. The pilot study was conducted in Bensam Hospital at Kanyakumari District and finding revealed that the tool was feasible, reliable and practicable to conduct the main study.

The tool was validated by five experts and the reliability of the tool was established by inter-rater-reliability method. The main study was conducted in Bensam Hospital at Kanyakumari District. The 60 antenatal mothers who fulfilled the inclusive criteria were selected for the study out of which 30 mothers were assigned to experimental group and 30 were assigned to control group through purposive sampling technique.

Based on the inclusive criteria the samples were selected and allotted to the experimental and control group. The pre-test level of nausea and vomiting was assessed by using rating Scale. Mothers of experimental group were given acupressure and no intervention for control group. The post-test level of nausea and vomiting was assessed by using the rating scale. Data pertaining to the demographic variables were collected by the investigator by interview method. Both inferential and descriptive statistics were used to analysis the data.

The findings of the study revealed that the calculated ‘t’ value was 4.142 which showed highly statistical significant difference in post-test level of nausea and vomiting among antenatal mothers in experimental group and control group at $p<0.05$ level. Hence the hypothesis stated that there was a significant difference between the post-test level of nausea and vomiting among antenatal mothers in experimental and control group at $p<0.05$.So hypothesis was accepted.

Association of the post assessment level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables showed that there was no statistical significance except age, gestational weeks, gravida. Hence the hypothesis stated that there was a significant association of the post-test level of nausea and vomiting among antenatal mothers in experimental group with their selected demographic variables at $p<0.05$ was rejected.

Association of the post assessment level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables showed that there was no statistical significance except gestational weeks and gravida. Hence the hypothesis stated that there will be significant association of the post-test level of nausea and vomiting among antenatal mothers in control group with their selected demographic variables at $p<0.05$ was rejected.

CONCLUSION

The present study assessed the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers. The results of the study concluded that applying acupressure on P_6 points was effective in the reduction of nausea and vomiting among antenatal mothers. Acupressure is cost effective, easy to apply, not painful and can enhance comfort to the mothers in antenatal period. So, could easily be adopted as a regular intervention. Therefore, the investigator felt that more importance should be given to the assessment of nausea and vomiting by using rating scale following the intervention of acupressure. It can be given as non-pharmacological measures to enhance reduction of nausea and vomiting.

IMPLICATIONS

The investigator has derived from the study, the following implications, which are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing Practice

The midwives have a vital role in providing safe and effective nursing care to enhance the reduction of nausea and vomiting among antenatal mothers.

This can be facilitated by motivating the nurse midwives to,

1. have an in depth knowledge on physiological changes during pregnancy and management for nausea and vomiting in antenatal period.
2. learn about accurate assessment of nausea and vomiting with the use of rating scales.
3. develop the skill in providing efficient nursing care for effective reduction of nausea and vomiting management and promote comfort.
4. teach the mothers during antenatal period about the effectiveness of various non pharmacological measures for nausea and vomiting.

Implications for Nursing Education

1. Ensure that the students learn the normal physiological changes during pregnancy and its management.
2. Provide adequate clinical exposure for the students to give effective and safe nursing care for antenatal care with reduction of nausea and vomiting.
3. Make use of available literatures and studies related to non-pharmacological measures for nausea and vomiting during pregnancy.

4. Educate the students about various complementary and alternative therapies for nausea and vomiting during pregnancy.
5. Encourage the students for effective utilization of research based practices.

Implications for Nursing Administration

1. Collaborative with governing bodies to formulate standard policies and protocols to emphasize nursing care during pregnancy and mother with nausea and vomiting.
2. Conduct in-service programme and continuing education programme for effective management for nausea and vomiting during pregnancy
3. Ensure and conduct workshops, conferences, seminars on non-pharmacological methods to reduce nausea and vomiting.

Implications for Nursing Research

1. As a nurse researcher, promote more research on effective management for nausea and vomiting during pregnancy.
2. Disseminate the finding of the research through conferences, seminars and publishing in nursing journal.
3. Promote effective utilization of research findings on nausea and vomiting during pregnancy management.

LIMITATION

1. Only limited literatures and studies were obtained from the Indian context.
2. Generalization will be better if large sample included.
3. Due to time constraints, the investigator was unable to take more than sixty samples for the study.

RECOMMENDATIONS

The study recommends the following future research,

- The similar study can be conducted with larger samples for better generalization.
- A study can be conducted to assess the knowledge and practice of acupressure for nausea and vomiting management among nurse midwives.
- A study can be conducted to assess the effectiveness of other nursing measures such as music, aromatherapy, acupuncture for reduction of nausea and vomiting among antenatal mothers.

APPENDIX-A

LETTER SEEKING AND GRANTING PERMISSION FOR CONDUCTING THE STUDY

SRI K. RAMACHANDRAN NAIDU COLLEGE OF NURSING
Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C
Affiliated to the Tamilnadu Dr. M.G.R. Medical University
K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karivalam (via)
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377. E - Mail : srikrncon@yahoo.com

04.04.2011

To

The Director,
Bensam Hospital,
Vettoornimadam (Po),
Nagercoil – 629003,
Kanyakumari District.

Ms. B.Berlin Nisha is a bonafide student of our college studying in M.Sc (N) programme. As a partial fulfillment of the university requirement for the award of M.Sc (N) degree, She needs to conduct research project.

Her chosen research project is as follows **"A study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari District, April 2011."**

He will abide by the rules and regulations of the hospital and adhere to hospital policies during his period of data collection. Permission may kindly be granted to her for conduction of the study at your hospital.

Further details of the proposal project will be furnished by the student personally, Confidentiality will be ensured in the research project.

Thanking you

Yours faithfully

Principal
Sri K. Ramachandran Naidu
College of Nursing
K.R. Naidu Nagar - 627 753. Karivalam (Via)
Sankarankovil (T.K.) Tirunelveli Dt.,

She may be permitted to do the Study

Dr. Shirlina Frank, M.B.,B.S., D.G.O.
Reg. No. 47807
Consultant Obstetrician & Gynaecologist
Bensam Hospital

APPENDIX-B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Ms.B.BERLIN NISHA,
Sri K.Ramachandran Naidu College of Nursing,
Karivalam,(via),Sankaran Kovil,
Tirunelveli- (Dt)-627753.

To

Respected Madam,

Sub: Letter requesting opinion and suggestions for content validity of the tool.

I am 1st Year M.Sc., (Nursing) student of Sri.K. Ramachandran Naidu College of Nursing, Tirunelveli. As part of my course I am doing a study on the topic mentioned below.

"**A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari, May 2011"**

The dissertation is to be submitted to the Tamil Nadu Dr. MGR. University, as a partial fulfilment for the requirement of M.Sc. (Nursing) Degree.

Hence I request you to kindly evaluate the tool items and give your valuable opinion and suggestion for improvement of this tool.

I would be highly obliged and thankful to hear from you.

Thanking you,

Signature and seal of validate,

Yours sincerely,

(BERLIN NISHA)

APPENDIX-C

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERTS

1. **Dr. Mrs.D.Uma maheswari, M.D., D.G.O.,**
   Consultant Obstetrician & Gynaecologist,
   Ashok Clinic,
   609, Tenkasi road,
   Rajapalayam,
   Virudhunagar Dist – 626 117.

2. **Dr. Mrs. K. Uma maheswari, M.B.B.S., D.G.O.,**
   Assistant Surgeon,
   Government Maternity Hospital,
   Rajapalayam,
   Virudhunagar Dist – 626 117.

NURSING EXPERTS:

3. **Mrs. Rajeshwari**
   Ramachandran College of Nursing,
   Ramachandran University.
   Porur,
   Chenni – 600116.

4. **Mrs. Rosalind Rachel**
   Principal,
   Indira College of Nursing,
   V.G.R Nagar, Pandur,
   Thiruvallur Dist – 631 203.

5. **Mrs. Sabeera Banu**
   Principal,
   Matha College of Nursing,
   Vanpuram P.O.,
   Manamadurai,
   Sivagangai Dist.

APPENDIX-D

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work "**A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari, May 2011"** done by **Ms.B.Berlin Nisha** M.Sc. (Nursing) in Sri.K.Ramachanadaran Naidu college of Nursing, Tirunelveli is edited for English language appropriateness by **Mr.S.Jayan Dharmaraj. M.A., M.A., M.Phil.**

Signature:

APPENDIX-E

CERTIFICATE FOR ACUPRESSURE TRAINING

SRI RAM HOSPITAL

Dr. G. Kothandaraman,
M.B.B.S., Dc.CH., F.C.G.P., F.S.A.S.M.S., M.R.S.H., M.D., (Acu)
Reg. No. 28834

Phone : 220286
24/617, P.A.C.R. SALAI,
RAJAPALAYAM - 626 117.

Date : 11/4/11

To whom soever it is concerned

This is to certify that Miss.B. Berlin nisha M.sc.Nursing II –Year Sri.K .Ramachandra Naidu College of Nursing has undergone training in acupressure therapy in my hospital (Dr.G. Kothandaraman- acupuncture therapist). She has learned the method of doing acupressure therapy which is needed for her research. I wish her all the best.

G Kothandaraman
11/4/11
Dr. G. Kothandaraman.

APPENDIX-F

INFORMED CONSENT

I, **Ms.B.Berlin Nisha**, II[nd] Year, M.Sc. (Nursing) student from Sri K. Ramachandaran Naidu College of Nursing, Tirunelveli conducting a study **"A quasi experimental study to assess the effectiveness of acupressure on reduction of nausea and vomiting among antenatal mothers in Bensam Hospital at Kanyakumari, May 2011"** as a partial fulfilment of the requirement for the degree of M.Sc. (Nursing) under the Tamil Nadu Dr.M.G.R.Medical University. The study participants will be assessed by rating scale for nausea and vomiting during antenatal period. I assure you that the response given by you will be kept confidentially. So, I request you to kindly cooperate with me and participate in this study.

Thank you,

APPENDIX-G

TOOL

COPY OF THE TOOL FOR THE DATA COLLECTION

DEMOGRAPHIC DATA

Section-A

1) Age of the Mother

a) <20 yrs

b) 20-24years

c) 25-30years

d) 31-35years

2) Gestational Weeks

a) 4-6weeks

b) 7-9weeks

c) 10-12weeks

3) Gravida

a) I

b) II

c) III

4) Educational status

a) Illiterate

b) Primary School

c) Secondary

d) Higher education

e) Graduate

5) Work Pattern

a) Sedentary worker

b) Moderate worker

c) Heavy worker

6) Type of family

a) Nuclear

b) Joint

c) Extended

7) Area of Living

a) Urban

b) Semi urban

c) Rural

Section-B

ASSESSMENT TOOL FOR NAUSEA AND VOMITING

S. No		1	2	3	4	5
1.	I feel nauseated					
2.	I use to have vomiting					
3.	I use to have vomiting immediately when I get up from the bed					
4.	I use to have vomiting while I brush my teeth					
5.	I vomit immediately after ingestion of food					
6.	I use to experience full fledged vomiting					
7.	I use to have vomit to specific odour					
8.	Consistency of the vomiting is water with undigested food particles					
9.	Consistency of the vomiting is digested food particles					
10.	I feel heart burn					
11.	I use to have regurgitation					
12.	I feel woozy					
13.	I feel ptyalism					

S. No		1	2	3	4	5
14.	I feel my tongue is dry and coated					
15.	I use to have cool and clamy skin after vomiting					
16.	I feel aversion towards the food					
17.	I feel exhausted after vomiting					
18.	I am not able to do the household activities					
19.	I use to have vomiting even taking sips of water					
20.	I use to have medication for vomiting					

Score:

Never - 1

Occasionally - 2

Sometimes - 3

Often - 4

Very often - 5

Scoring Keys:

1-33 - Mild

34-66 - Moderate

67-100 - Severe

APPENDIX-H

SCORING KEY

Scoring keys 1-100 were used in rating scale

This is grouped under three categories.

SCORE	NATURE OF NAUSEA AND VOMITING	DESCRIPTION OF NAUSEA AND VOMITING
1-33	Mild	Nauseated but occasional vomiting, can perform daily task.
34-66	Moderate	Nausea and vomiting mildly tolerable can perform daily task.
67-100	Severe	Nausea and vomiting was unbearable, feel tired. Cannot perform daily task.

APPENDIX-I

INTERVENTION GUIDE FOR NAUSEA AND VOMITING AMONG THE ANTENATAL MOTHERS

INTRODUCTION

As a part of research study intervention chosen for the study was acupressure on reduction of nausea and vomiting among antenatal mothers.

PROCEDURE

Preliminaries

- Explained the procedure and its effect to the mother.
- Place the mother in sitting position.
- Assessed the pre test level of nausea and vomiting by using rating Scale.

INTERVENTION

- Place the mother in sitting position comfortably.
- Place the women index fingers above the transverse crease of the inner wrist. Tip of the index finger indicated P_6 points. The investigator place thumb finger at the tip of the index finger. P_6 point is located 2 inches up to wrist bracelet, 0.5 - 1.0 deep between 2 tendons.
- P_6 point was located on the right hand and pressure was applied for 15minutes. Subsequently pressure was applied on the left hand also for 15 minutes.
- Acupressure was subsequently applied with the interval of 15 minutes for two times.

Pressure points for Nausea and Vomiting during Pregnancy

Using pressure points may be helpful. Place firm pressure on the point for several minutes. Its useful to the continuous applies of pressure for every two hours, or during the nausea, for approximately five minutes. This point is three of the woman's finger widths above the transverse crease of the inner wrist. It lies directly between the two tendons felt there. It is possible to buy wristbands to apply Pressure to this point, available through chemists.

A licensed director at the center for integrative medicine at the University of Maryland School of medicine described the treatment works to prevents nausea and Vomiting. After stimulation on the acupressure points the nerve system is then activated and Signals the brain to release certain chemicals known as neurotransmitters such as serotonin, dopamine or endorphins. Then block the other chemicals that cause the sickness, nausea and vomiting in the case, in the central nerve system. Therefore the patient would not feel nauseated **(Lixing Lao, 2006).**

Post-test

- After acupressure was applied post- test level of nausea and vomiting was assessed using rating Scale.

BIBLIOGRAPHY

BOOKS

1. Annamma Jacob (2005). *Comprehensive Text book of Midwifery*. (1st ed.). New Delhi: Jaypee brothers publication.
2. Attar Singh (2007). *Acupressure-Do it yourself Therapy*. New Delhi: Navneet Publications limited.
3. Barbara, E., Kozier. (1995). *Fundamentals of Nursing: Nursing Diagnosis Association. (*6th ed.). North America: Mosby Publication.
4. Basavanthappa B.T. (2006). *Nursing Research* (2nd ed.). Bangalore: Jaypee Brothers Publication.
5. Benett V., Ruth et al., (2003). *Myles Text of Midwives. (*14th ed.). London: Churchill Living Stone Publications.
6. Black, M. Joyce. (2008). *Medical Surgical Nursing.* (7th ed.). Missouri: W.B. Saunders Company.
7. Boback & M.Irene et al., (1996). *Maternity Nursing.* (5th ed)**.** Philadelphia: Mosby Publication.
8. Bobak Irene et al., (1998). *Essential of Maternity Nursing The Nurse And The Child Bearing Family*.(5th ed.). Philiphia: Mosby Publication.
9. Bodyazhina (1987). *Text Book of Obstetrics Moscow*.(4th ed.). New York: Mir Publishers.
10. Brink, J. Paemela, Matriynn, J Word (2000). *Advanced Design In Nursing Research.* (2nd ed.). New Delhi: Sage Publication.
11. Chamberlin Hegffery (2000). *Text Book of Obstetrics,* (2nd ed.) New York: Mosby Company Publication

12. Christine, StaryMarthaj (2000). *Introduction To Maternal And Child Health Nursing.* (8th ed.). Philadelphia: Churchill Living Stone Publication.

13. Connor Lindw& Gurley Rebecca J. (2001). *Obstetrics and Gynaecologic Care In Physical Therapy.* (3rd ed.). USA: SLACK in Corporate Publication.

14. Daniel. (Eds.) (2007). *Biostatistics: A Foundation for analysis in the Health Sciences.*New York: John Wiley & Sons Publications.

15. Dawn C.S. (2003). *Text Book Of Obstetrics Including Perinatology And Conception*(15 th ed.) Calcutta: New Central Book Agency.

16. Didona, N.A. Marks, M.G. (1998). *Introductory Maternal New Born Nursing.*(6th ed.) USA: B Lippincott Publication.

17. Dutta, D.C. (2004). *Text Book & Obstetrics Including Gerontology and Conception.* (5th ed.). Calcutta: New Central Book Agency.

18. Erna, E. Ziegal, Mecca S., Granley. (1984). *Obstetric Nursing.*(5th ed.). New York: MacMillan Publishing Company.

19. Fitzapatric Joyce et al., (1998). *Conceptual models of nursing analysis and Application.* (3rd ed.) A Prentice Hall Publication Company

20. Gala Dhiren (Eds.). (2007). *Be Your Own Doctor With Acupressure.*Navneet Publications Limited.

21. Gupta, S.P. (2003). *Statistical Methods.* (8th ed.). New Delhi: Sultan Chand & Sons Publication.

22. Haney Louise (2000). *Family Centred Maternity And New Born Care.* (2nd ed.). New York: National Guidelines Publications.

23. Ingalls A. Joy, Salerno, M. et al., (1999). *Maternal And Child Health Nursing* (5th ed.). London: The C.V Mosby Company.

24. Kamal Bursher (1996*). Obstetrics and Gynaecology Principle And Practice.* (6th ed.). New Delhi: Jaypee Publication.

25. Kozier Barbara &ErbGlenora (2001). *Fundamental of Nursing Concept and Procedure,* (3rd ed.). California: Addison Wesley Publication.

26. Lowdermilk Perry, (2007). *Maternity and Women Health Care. (7th ed.)***.** Missouri: Mosby Publications.

27. Maltox, J.H. (1999). *Care Textbook of Obstetrics and Gynaecology.* (5th ed.). California: Mosby Publication.

28. Menon& Krishna, M et al., (2001). *Mudaliar And Menon's Clinical Obstetrics.* (12th ed.). Madras: Orient Longman Company

29. Myles &Margarat (2002). *Textbook for Midwives.*(14th ed.). London: Churchill Livingstone Publication.

30. Nicholos, F.H. Zwelling, E. (1999). *Maternal New Born Nursing Therapy and Practice. (6th ed.).* London:W.B. Saunders publication.

31. Polit F. Denise, Bernadett P. Hunglar, (2005). *Nursing Research Principles and Methods.*(7th ed.). New Delhi: J.B Lippincott Company.

32. Ramzy (1983). *"Essentials of Gynaecologic and Obstetric Pathology",* New York: Appleton-Century Crofts.

33. Rao, S.S. & Richard (1997). *"An Introduction to Bio-Statistics",* (3rd ed), New Delhi: Prentice Hall of India (P) Ltd.

34. Reeder Sharon (1999).*Maternity Nursing Family New Born And Women Health care.* (2nd ed.). London: Lippincott Company.

35. Shrish, N. &Daftary. (2005). *Manual of Obstetrics.* (2nd ed.) .New York: Elsevier Publication.

36. Sudip Chakravarthy (2005). *Manual of Obstetrics.* (2nded.). London.: Elsevier Publications.

37. Sundar Rao, P.S., Richard, J. (2002). *An Introduction to Biostatistics: A Manual for Students in Health Sciences.* (5thed.). India: Prentice Hall India Ltd.

38. Sweet, R. (1998). Mayer's Midwifery *"A Text Book For Midwives"*, (11th Ed). London: ELBS, 30.

39. Williams et al., (1932). *"Obstetrics"*, (19thed), America: Prentice Hall of India (P) Ltd.

Journals

40. Aikins Murphy, P. (1998). Alternative therapies for nausea and vomiting in pregnancy.*Journal of Obstetrics and Gynecology,* (91):49 –55.

41.Alexander Heazell, M.B. Ch.B. (Hons), (2005). Complementary therapy for pregnancy.*Journal of Obstetrics and Gynaecology,* (33): 80-82.

42. Attard, C.L. et al. (2002). The burden of illness of severe nausea and vomiting of pregnancy in the United States. American Journal of Obstetrics and Gynecology, (186): S220-S227.

43. Bayreuther, J., Lewith, G.T., Pickering, R. (1994). A double-blind cross-over study to evaluate the effectiveness of acupressure at Pericardium 6 (P6) in the treatment of early morning sickness (EMS*).Journal of Obstetrics and Gynecology.* (2): 70 –6.

44. Belluomi, J., Litt, R.C., Lee, K.A., & Katz, M. (1994). Acupressure for nausea and vomiting in pregnancy: a randomized, blinded study. *Journal of Obstetrics and Gynecology* (84) : 245 –8.

45. Belluomini, J., et al., (1994). Acupressure for nausea and vomiting of pregnancy: a randomized, blinded study.*Journal of Obstetrics and Gynecology*,(84): 245-248 .

46. Chestnutt, W.N., Ghaly, R.G., Lynas, A.G., (1986). Traditional Chinese acupuncture: a potentially useful antiemetic? *British medical journal.* (19)293: 583– 4.

47. Chou FH et al., (2008). Relationships between nausea and vomiting, perceived stress, social support, pregnancy planning, and psychosocial adaptation in a sample of mothers: a questionnaire survey. *International Journal of Nursing Studies,* (45): 1185-91.

48. Chou, F.H. et al., (2003). Psychosocial factors related to nausea, vomiting, and fatigue in early pregnancy. *Journal of Nursing Scholarship*,(35): 119-25.

49. De Aloysio D, & Penacchioni, P. (1992).Morning sickness control in early pregnancy by Neiguan point acupressure. *Journal of Obstetrics and Gynecology*,(80): 852 – 4.

50. Dundee, J.W., Sourial, FBR, Ghaly, R.G. & Bell, P.F. (1988). P6 acupressure reduces morning sickness. *Journal of Social Medicine.* (81): 456–458.

51. Evans, A.T., Samuels, S.N., Marshall, C., Bertolucci, L.E., (1993). Suppression of pregnancy-induced nausea and vomiting with sensory afferent stimulation. *Journal of Reproductive Medicine*(19) 38:603 –606

52. Fischer-Rasmussen, W., Kjaer, S.K., Dahl, C. &Asping, U. (1990). Ginger treatment of hyperemesis gravidarum. *European Journal of Obstetrics and Gynecology Reproductive Biol*ogy, (38): 18.

53. Goodwin, T.M. (2002). Nausea and vomiting of pregnancy: an obstetric syndrome. *American Journal of Obstetrics and Gynecology*, (186): S184-S189.

54. Gralla, R. et al., (1999). Recommendations for the use of antiemetics: Evidence-based, clinical practice guidelines. *Journal of Clinical Oncology*, (17): 2971-94.

55. Griffin, A. et al., (1996). On the receiving end: V Patient perceptions of the side effects of chemotherapy in 1993. *Annals of Oncology,* (7): 189-95.

56. Hyde, E. (1989). Acupressure for morning sickness – a controlled clinical trial.*Journal of Nurse Midwifery*, (34):171 –181.

57. Jewell, D. (2003). Nausea and vomiting in early pregnancy. *American Family Physicia, (*68): 142-145.

58. Mattawan Jamigorn & Vorapong Phupong (2007). Acupressure and vitamin B6 to relieve nausea and vomiting in pregnancy: *Journal of Gynecology and Obstetrics*,(276): 245-249

59. Meltzer, D.I. (2000). Complementary therapies for nausea and vomiting in early pregnancy. *Journal ofFamily Practice*, (17): 570–573.

60. Miller, F. (2002). Nausea and vomiting in pregnancy: the problem of perception--is it really a disease. *American Journal of Obstetrics and Gynecology*, (186): S182-S183.

61. O'Brian, B., Joyce Relyea, M. & Taerum, T. (1996). Efficacy of P6 acupressure in the treatment of nausea and vomiting during pregnancy.*American Journal of Obstetrics and Gynecology*, (174): 708 – 15.

62. Ozlem Can Gürkan & Hediye Arslan (2008). Complementary Therapies in Clinical Practice. *American Journal of Obstetrics and Gynaecology, (*14):46-52.

63. Piwko, C. et al., (2007). The weekly cost of nausea and vomiting of pregnancy for women calling the Toronto Motherisk Program. *Current Medical Research and Opinion*, (23): 833-40.

64. Salehian, T., Delaram, M., &Tadayon, M. (2007). Effect of acupressure on the severity of nausea and vomiting in pregnancy. *Hormozgan Medical Journal,* (2): 7- 12.

65. Slotnick, R.N. (2001). Safe, successful nausea suppression in early pregnancy with P-6 acustimulation. *Journal of Reproductive Medicine*, 46(9): 811-814.

66. Todd Rosen & Margarita De Veciana et al., (2003). A randomized controlled trial of nerve stimulation for relief of nausea and vomiting in pregnancy.*Journal of Obstetrics and Gynecology,* (102): 129-135.

67. Vickers, A. (1996). Can acupuncture have specific effects on health. A systematic review of acupuncture antiemesis trials. *Journal of Social Medicine.* (89): 303 –311.

68. Vutyavanich, T., Wongtrangan, S. & Ruangsri, R. (1995). Pyridoxine for nausea and vomiting of pregnancy.*American Journal of Obstetrics and Gynecology*, (173): 881–884.

69. Watcha, M.F. & White, P.F. (1992). Postoperative nausea and vomiting: its etiology, treatment and prevention. *Anesthesiology*. (77): 162-84.

70. Werntoft, E., Dykes AK, (2001). Effect of acupressure on nausea and vomiting during pregnancy.*Journal of Reproductive Medicine*, 46(9):835-839.

71. Willets, K.E., Ekangaki, A., Eden, J.A., (2004). Ginger to treat nausea and vomiting in pregnancy. *Journal of Obstetrics & Gynecology*. (103): 639-645.

72. Woolhouse, M. (2007). Complementary medicine for pregnancy complications.*Australian Family Physician*, (35): 6

Websites

73. Hediye Arslan,j. (2008).*Complementary Therapies in Clinical Practice*. Retrieved from: http//:www.sciencedirect.com.

74. Gatherer-Boyles. J. (2006).*Effects on acupressure.* Retrived from: http//: www.pubmed.com

75. Sumona Saha.S. (2009). *Nausea and vomiting of pregnancy*. Retrived from: http//:www.researchgate.com

76. Ramin, M.D (2005). *Pharmacotherapy for nausea and vomiting in Pregnancy.* Retrived from: http://www.Medscape.com

77. Caroline Maltepe.M.(2006).*Optimal management of nausea and vomiting of pregnancy.* Retrived from: http://www.Jenescence.com.

78. Trupin. N. (2004). Nausea and *Vomiting in pregnancy*. Retrived from: http://www.maternitywise.com.

79. Ema Ferreira. R.(2004). *Nausea and vomiting.* Retrived from http://www.bodytherapy.com

80. Bulletin. L.(2004). *Nausea and vomiting of pregnancy*. Retrived from :http://www.obgyn.net.